

Library Trends

Conservation of Library Materials

MAURICE F. TAUBER, *Issue Editor*

January, 1956

Library Trends

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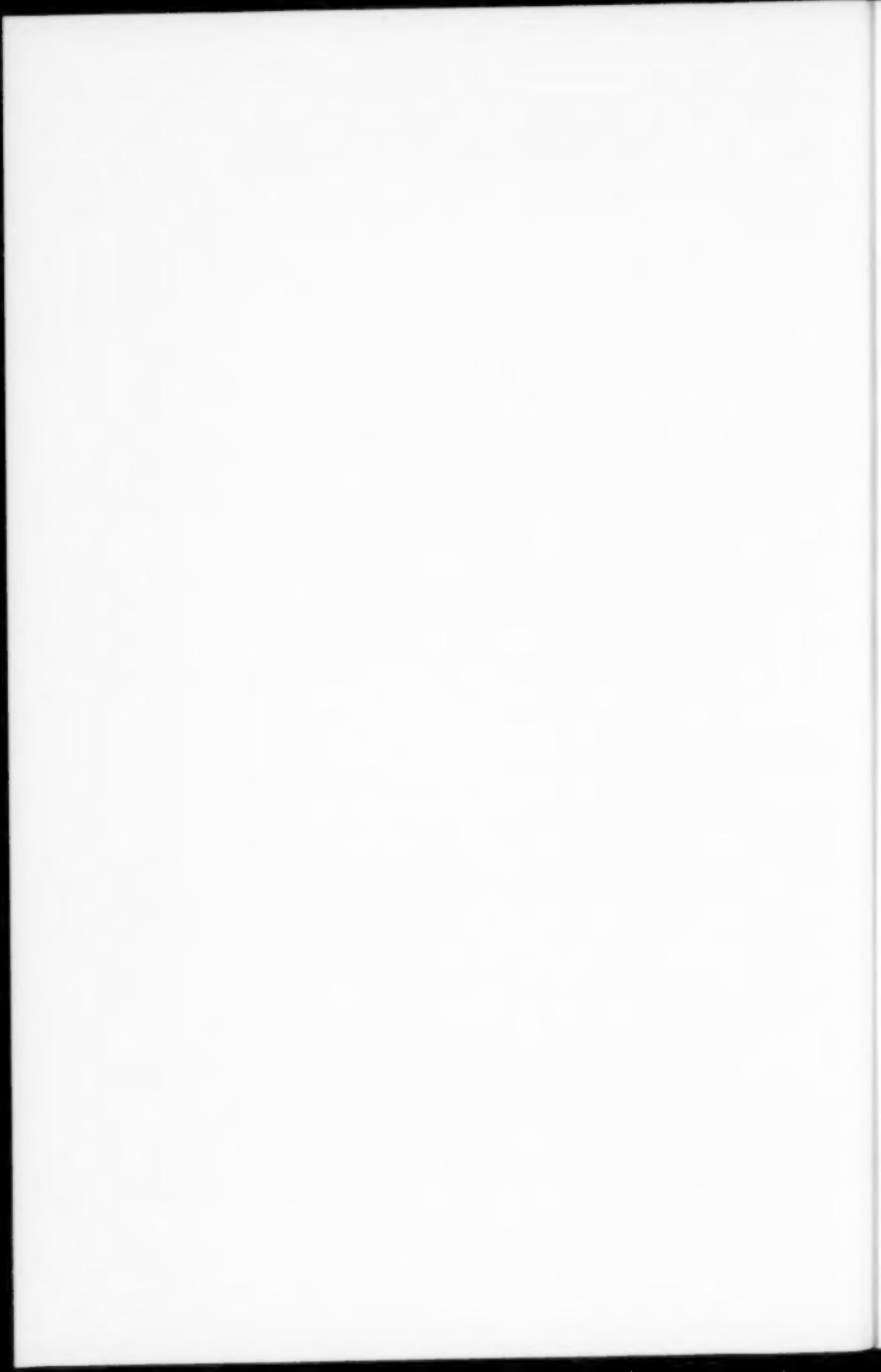
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MAURICE F. TAUBER, *Issue Editor*

CONTRIBUTORS TO THIS ISSUE:

| | |
|---|-----|
| MAURICE F. TAUBER | 215 |
| Conservation Comes of Age | |
| FRANK L. SCHICK | 222 |
| Trends in Publications Affecting Binding and Conservation | |
| ROLAND BAUGHMAN | 239 |
| Conservation of Old and Rare Books | |
| SIDNEY DITZION AND LEVERETT NORMAN | 248 |
| Problems of Periodical and Serial Binding | |
| RAY O. HUMMEL AND W. J. BARROW | 259 |
| Lamination and Other Methods of Preservation | |
| HOWARD F. MC GAW | 269 |
| Policies and Practices in Discarding | |
| RUSSELL J. SCHUNK | 283 |
| Stack Problems and Care | |
| ROBERT E. KINGERY | 291 |
| The Bindery Within the Library | |
| JOHN B. STRATTON | 301 |
| Libraries and Commercial Binderies | |
| STEN G. LINDBERG | 312 |
| Some Binding Problems Abroad | |
| EDWARD CONNERY LATHEM | 321 |
| Some Personnel Considerations for Binding and Conservation Services | |





Conservation Comes of Age

MAURICE F. TAUBER

MODERN RESEARCH LIBRARIES are what they are today because of the programs of conservation and preservation which librarians have followed through the past centuries. Although much remains to be done in this area of librarianship, as the following papers show, it would be unfair to describe librarians as a group which has been delinquent in its stewardship. Most research librarians have recognized the importance of adequate binding programs, of the need of special care of non-book materials, and of the applications and potential uses of microreproductions and other photographic media in the general problem of preservation.

Conservation and preservation, however, are terms which are not to be restricted to the curatorship of research collections and rare materials, either in public or university libraries. They represent areas of immediate interest to school and children's librarians, who must get as many uses as possible out of current publications in order to meet budgetary limitations; to the college and junior college librarians, who are concerned with this and other problems of mass use; and to the governmental and other special librarians, who must handle and care for all kinds of documents and reports as well as bound books.

In a recent report on the Harvard University Library, K. D. Metcalf wrote: "Care of the collections has been neglected so seriously that \$265,000 is now needed for relabeling, repair, and rebinding of materials in the Widener stack alone; an additional \$5,000 per year is needed for cleaning these stacks adequately."¹ Any of the many general surveys of public and academic libraries conducted during the past few years reveal conditions which are similar to those described at Harvard. Although budgetary support for the acquisition of materials has sometimes been generous in libraries, it has not always been easy for librarians to obtain the necessary funds for the proper

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MAURICE F. TAUBER

care of collections. How to remove this paradox is a question faced by the profession generally.

This issue is really a companion piece to "Special Materials and Services," the October, 1955, issue of *Library Trends*, edited by A. H. Horn. Problems in the care of maps, newspapers, prints, pictures, photographs, musical scores and recordings, films, microfilms and microfacsimile publications, pamphlets, broadsides, clippings, posters, and manuscripts were discussed by the contributors to the October number. In some ways, the present issue is a continuation of this discussion, although in its general structure it is quite different. For example, lamination and other restorative practices are mentioned by W. W. Ristow and Neal Harlow in the October issue; here they are given detailed treatment by Ray O. Hummel and W. J. Barrow, and noted by Sten Lindberg. The present issue, however, does not purport to give a complete set of formulae for conserving, preserving, and restoring all types of library materials.

Many questions are raised by the contributors. What trends in publications affect the binding programs of libraries? How is the paperback to be fitted into the program? What is the library problem in regard to titles that are published originally as paperbacks? What are the current problems in the care of rare books, or, as Roland Baughman asks, what is a rare book? To what extent have librarians considered the consequences of their practices in the binding of periodicals and other serials? What are the ingredients of a binding program for serials? How is the preservation of materials aided by proper stack construction and control? Should libraries attempt to keep all materials they acquire? What are the elements in a discarding program? Should a library operate its own bindery? If so, under what conditions? What is the status of the relations between librarians and commercial binderies? In what ways may these relations be improved? Have the binding developments in European countries any contribution to make to the solution of American problems? What kinds of training should individuals in charge of binding programs and operations have?

These questions provide a general outline of the nature of the problems discussed in the papers included in this issue. In a number of situations, the authors have been able to suggest answers to questions on the basis of available data. Frank Schick's review reveals the development of new problems arising from changes in publications. There remain many fundamental problems which are still in need of solution. Not the least is the question of binding policies for li-

Conservation Comes of Age

ibraries. The literature has frequently referred to acquisition policies, cataloging policies, and reference policies of libraries. Less attention has been given to binding policies, probably because libraries have never really had enough funds for handling all their binding needs. Inadequate funds actually make a policy essential, but what and when to bind are still unsettled problems in many libraries. Moreover, the intrusion of cooperative enterprises has a direct effect upon the preservation and binding problems of institutions which are part of the enterprises. Microreproduction, too, has a still undetermined relation to binding programs. The use of plastics and adhesives for inexpensive conservation has barely made an impression on the library field.

Experimentation in restorative processes continues at a lively pace. In both America and Europe the search for improved methods may help librarians to overcome the deteriorating effects of age and other threats to library materials. The Institute of the Pathology of the Book, located in Rome, only last June moved into its new \$150,000 headquarters for further study of the reasons for the decay of books and documents.² The Institute's biological, microbiological, chemical, and physical departments investigate the preservation and restoration of materials endangered by insects, mold, germs, fire, and water. In the United States, the National Archives and the Bureau of Standards have provided information to librarians on questions concerning the care of manuscript materials, documents, and photographic materials.³ A few libraries, such as Harvard, Huntington, the Library of Congress, and the New York Public Library, have had staff members work on problems in preserving books and papers. Barrow, a professional document restorer at Richmond, Virginia, has made special studies of paper.⁴ If librarians are going to replace paper records with photographic reproductions, "norms for durability, fineness of grain, and fireproof and moistproof properties of microcopies and photocopies are needed especially."⁵

The American Library Association and other library organizations might well work cooperatively in supporting studies of the problems on a national basis. The Association of Research Libraries, working with the Council of National Library Associations, has been cognizant of the problem of national preservation of library resources, not only from the point of view of natural deterioration but also from the standpoint of protection from possible military damage. The Committee on National Needs of the A.R.L. discussed in 1954 a plan for preservation prepared by Scott Adams.⁶ The plan for the preservation of library resources, according to the program, should have the following

MAURICE F. TAUBER

characteristics: "(a) It should be based on coordinated long-term development, rather than on emergency protection measures; (b) It should pay dividends of current service while providing an ultimate hedge against disaster; (c) It should have sufficient motivation to overcome narrow self-interest; (d) Its costs should be distributed among those who stand to profit by it; (e) Its basic purpose should be the preservation not of individual libraries, but of the materials of scholarship, of science, of technology. It should preserve in usable form the information which we might need to continue our defense under attack, to restore the country after attack, or, if need be, to rebuild our civilization."⁷ The plan further suggests the development of "shadow" collections in relatively secure locations. Also in 1954, the C.N.I.A. Committee for the Protection of Cultural and Scientific Resources presented to the A.R.L. Committee on National Needs for consideration various proposals for protecting library materials. The major aspects of these proposals include: (1) dispersal of library resources by definite plan in terms of unique library materials; (2) coordination of programs of reproduction of materials; and (3) development of a strong network of library services between libraries located in non-strategic centers.⁸ There appears to be no question, as was pointed out by R. H. Logsdon, that "individual institutions will have to take primary responsibility for protection of unique materials and 'treasure' items, perhaps by storage in safe places and microfilming, but not necessarily integrated into a regional or national plan."⁹ The essential value of these discussions is that a problem of national significance is receiving earnest attention from library leaders.

The responsibility for preservation of materials is basically one borne by individual librarians. But cooperation is part of this responsibility. Governmental librarians, for example, have in recent years advanced their efforts to develop cooperative projects. These efforts have included binding. Recently, Ruth Hooker observed: "Another cooperative project under consideration by the same committee [Professional Activities Committee of the Washington, D.C., chapter of the Special Libraries Association] has to do with the circumstances affecting the binding of books and periodicals in federal libraries, such as cost, specifications, and speed of delivery. Federal librarians have known for years that something should be done in this matter, and many have tried individually, but this is the first time it has been attacked cooperatively."¹⁰

The development of cooperative storage centers and interlibrary centers has also a direct effect upon the problems of conservation and

Conservation Comes of Age

preservation of library resources. The acquisition of newspapers by the Midwest Inter-Library Center for the use of member libraries is an example of the effort being made to reduce the storage and binding load on individual institutions. The acquisition of other marginal materials, or little-used resources, is part of the program of the Center. The discussions of the A.R.L. Committee on Cooperative Access to Newspapers and Other Serials are also worthy of mention in connection with the growth of cooperative plans. In essence, the idea is to initiate a national pool of current foreign newspapers in microfilm form to be made available to subscribing institutions.

Although national and regional problems of conservation warrant all the attention that librarians and other interested groups can give to them, there is a current concern for individual library problems. For example, a question that recurs is, "Should we operate our own bindery?" Most librarians have answered this question a long time ago—in the negative—and push it aside without further thought. Why be bothered with a technical problem that can be handled by experts? "Commercial binderies can do the job more economically" is the usual answer. However, there are both public and academic libraries which operate binderies. R. E. Kingery has summarized the literature, which is remarkably meager in regard to cost data. His estimate as to the work load, annual charges for supplies and salaries, and personnel required for the operation is likely to discourage the most venturesome. The profession could use to advantage careful studies of all types of library binderies in terms of costs and service, as well as studies of binding done by press binderies in universities.

Librarians owe much to commercial binders. The binding craft has aided librarians in the care of their books, periodicals, and other materials. J. B. Stratton has reviewed the present relations of librarians to library binders. The development of so-called "Class A Specifications" by the American Library Association and the Library Binding Institute has had some beneficial results for libraries in the past, but whether library binders do anything about it or not, librarians have come to the conclusion that there must be various kinds of bindings to meet their different problems of conservation and preservation.¹¹ Every book does not need a "Class A" binding. Various types of bindings¹² may be used to handle little-used periodicals and other serials. This does not mean that the libraries will cut their budgets for binding; it means making usually inadequate funds go further. Costs of binding have increased greatly; budgets have not grown proportionately. The library binders have much to gain by working closer with

MAURICE F. TAUBER

librarians in solving the problems the latter face in conservation. As a matter of fact, a number of libraries have already introduced "budget" bindings, usually involving plastics and adhesives, for certain materials. It might be well for some librarians to study carefully the use and durability of such bindings.

Binding is closely related to discarding. H. F. McGaw's review of discarding policies and practices serves to remind librarians that every item a library acquires does not have to be kept. Discarding programs in public, special, and school libraries have been rather comprehensive, primarily because of space problems. College and university librarians have not always engaged in systematic programs. Storage libraries undoubtedly will have a larger part to play in the program of discarding obsolete or little-used items, but individual libraries must approach this procedure positively. A more serious consideration of content, especially of serial literature, should dissuade some librarians from binding marginal materials. Sidney Ditzion and Leverett Norman discuss in provocative terms the urgency of policies in the binding of periodicals and other serials.

The problems of stack care of library materials are discussed by R. J. Schunk. The development of rare-book collections in libraries has been accompanied by the construction of separate libraries, such as at Harvard and Michigan, or separate quarters in the library, which are found in many institutions. With the manufacture of compact shelving, a number of libraries are beginning to sort their collections on the basis of use. Proper shelving, lighting, and ventilation are essential for the care of materials; dust prevention and systematic cleaning must be parts of any efficient stack organization. With more open stacks in libraries, the role of the user becomes more and more important. He should be instructed in the proper care of library materials, if the library budget for binding is to be kept minimal.

Various contributors have referred to personnel in the library who supervise and work with the binding program. The wide range of knowledge needed to administer a binding department of a large library, which acquires all types of materials, is clearly pointed out by E. C. Lathem. The handling of books for current use represents little difficulty. Satisfactory conservation of rare books, serial publications, music, archival materials, and the mass of items known as "fugitive materials" requires a professional approach that most librarians do not easily attain. But the professional approach is essential, as Baughman, Kingery, and Lathem emphasize. Undoubtedly, more training of librarians is necessary if librarians are going to participate

Conservation Comes of Age

actively in preserving their collections. The library schools have underplayed this type of instruction, and the penalty for this is the lack of "know-how" in critical situations.

The reader may not find in these papers as many guide-posts for a conservation theory as he might like. Certainly there are abundant facts. The major usefulness of the papers, however, is in pointing up the many areas which are still in need of basic investigation. Libraries are coming of age in their acquisition programs, and librarians are compelled to pay heed to the future disposition of their collections. The individual librarian must be concerned with his own collections, of course, but he would gain considerably by taking an active interest in regional, national, and international efforts in developing conservation and preservation programs.

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Trends in Publications Affecting Binding and Conservation

FRANK L. SCHICK

THE EARLIEST PRINTED books are not easily distinguished from their manuscript predecessors. The printers attempted to imitate in their first type faces the prevalent book hands of their locality and used the same papers as those available to the scribes. Binders continued to practice their craft as they had for centuries. The original purpose of bindings was to protect the visible cords and sewings of the books. Since leather was the only suitable material available and a scarce commodity in the 15th century, many manuscripts and incunabula were frequently only half covered with skins, leaving the wooden boards bare. As economic conditions permitted, leather was used to cover the outside completely. Occasionally, other materials found temporary acceptance, but until the first quarter of the 19th century a "bound book" generally meant one covered in animal skin. "Fine bindings" or "hand-book bindings" are still produced today, even in the United States,¹ but they were displaced from the general market by three inventions made between 1820 and 1832: the use of cloth as covering material, the casing-in method and the gold-stamping on cloth, which made the mass production of books possible.

Other inventions helped in the establishment of mass-production methods. Earl Stanhope invented the iron hand press in 1798 which was later improved by the cylinder press of König in 1814. The stereotype plates of William Ged were used in the United States around 1812, the Fourdrinier paper-making machine made its American appearance in 1827, and William Church's composing machine was in use here by 1830.² From these early beginnings the industry developed over the next one-hundred years by adding refinements to its processes. Mechanization was introduced during the second half of the 19th century, but basically the changes were minor. The book-cloth used during the 19th century was usually drab in color and variations came

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Trends in Publications Affecting Binding and Conservation

about primarily through different grains. More striking effects were achieved through the use of colored inks. The cloth was starch filled or coated and rather susceptible to deterioration. These shortcomings were at least partly eliminated when pyroxilin replaced starch in the more expensive materials as a coating and impregnating medium.

The comparatively inexpensive production of cloth-bound books became the standard product of American and English publishers, but were also widely adopted in Germany, Austria, Switzerland, and the Scandinavian countries. The countries of the Romance language group did not follow this lead wholeheartedly. Leather bindings were more slowly abandoned, but publishers never assumed as completely the task of having a larger percentage of their products bound as in the United States. These publishers mainly rely on sewn, paper-covered editions. They have the advantage of lower price and give the customer the choice of either economizing or having his books bound to specifications, standing eventually in uniform bindings on his shelves. Public or semi-public libraries in these countries usually have their books bound by small binderies, using even today a minimum amount of the machinery considered standard equipment by our commercial binderies.

Specialization in book production increased during the late 19th and 20th centuries and we find today at least a dozen different types of binderies.³ The following may be listed:

1. Edition binderies, where books are mass produced for publishers.
2. Pamphlet binderies, specializing in the production of shorter publications such as magazines, pamphlets and paperbounds, using various methods like stitching, stapling, and perfect binding.
3. Trade binderies which work for printers or other binderies, but not for individual customers.
4. General or job binderies which do various commercial jobs for customers and the trade.
5. Blank-book binderies, specializing in non-book materials.
6. Commercial or library binderies, specializing in binding and re-binding of various types of materials for all types of libraries.
7. Binderies within libraries, owned and operated by and working exclusively or primarily for their own institutions.⁴
8. Prebinders who specialize in acquiring sheets from publishers and putting them into particularly sturdy covers for heavy library use.
9. Mechanical bindery equipment producers who manufacture devices that permit the gathering of loose leaf sheets by various methods.

FRANK L. SCHICK

10. Hand binderies where high-class art bindings are done. Some of these expert craftsmen are found in large commercial binderies.

Items 6, 7, and 10 are discussed by other contributors to this issue.

The federal and state governments also contribute to the various types of binderies. The Government Printing Office Bindery does work for the federal government and various libraries in and around Washington, D.C. It was subjected to a study in 1953 which indicates that "binding by the Government Printing Office Bindery costs 265 per cent as much and takes 237 per cent as long for completion as required by commercial binderies. However, it should be noted that these data do not take into account either size, grade, or special work."⁵ Another type of bindery run by government agencies is the prison bindery; there seems to be little in the literature on this subject except occasional references of commercial binders to the effect that prison binderies represent unfair competition and turn out inferior work.

Viewing American book production over the last quarter century in terms of bindings and types of publications is fraught with difficulties. Statistics are sketchy and available figures are difficult to correlate when compared to statistics in such countries as Great Britain and Germany, where book production and exports enter more decidedly in the nation's economic development. Leon Carnovsky, in a paper presented at Beloit College, Wisconsin, in 1953, states that "anyone who spends much time reading the current literature of book publication turns away with a sense of considerable pessimism on the part of the book publishers themselves. Everything seems to militate against the buying of the books—the automobile and bridge in one decade, radio and television in another. Publishers complain bitterly about the industry's hazards and poor rewards, and attribute their remaining in business at all to sheer idealism and love."⁶ In addition to public apathy Carnovsky lists the following detriments to more extensive publishing: the need to concentrate on books most likely to become best-sellers, which will earn subsidiary rights from the film industry or paperback reprinters, and on texts which will be widely adopted; the lack of regular bookstores throughout the country (less than 2,000 in 1952); the extensive number of book clubs; and the competition from paperback books.

The Gallup Poll made a study on reading habits in various countries in 1950. The percentage of those affirmatively answering the question, "Are you now reading any books or novels?" resulted in the following breakdown:⁷

Trends in Publications Affecting Binding and Conservation

| <i>Country</i> | <i>Per Cent</i> |
|----------------|-----------------|
| United Kingdom | 55 |
| Norway | 43 |
| Canada | 40 |
| Australia | 35 |
| Sweden | 33 |
| U. S. A. | 21 |

Book production per 1,000 inhabitants during 1953 offers a similar picture, equally uncomplimentary to the United States:⁸

| <i>Country</i> | <i>Number of titles per 1000 inhabitants</i> |
|-----------------------|--|
| Norway (1952) | 83 |
| Switzerland (1953) | 78 |
| Netherlands (1953) | 73 |
| Denmark (1953) | 72 |
| Belgium (1952) | 55 |
| Austria (1953) | 52 |
| Sweden (1953) | 51 |
| Portugal (1952) | 49 |
| Finland (1952) | 43 |
| United Kingdom (1953) | 36 |
| West Germany (1953) | 33 |
| France (1953) | 28 |
| Japan (1952) | 21 |
| Italy (1953) | 18 |
| Spain (1952) | 12 |
| Turkey (1952) | 11 |
| U. S. A. (1953) | 7 |

These figures raise the question of how profitable it actually is to publish a book. According to Robert Frase's "Economic Trends in Trade Book Publishing," the publisher's profit in 1951 on an average adult trade book amounts to only 0.4 per cent of the retail selling price.⁹ In personal contact with publishers and editors this author has had the impression that many of them, particularly in the hard-bound trade book field, are in the profession mainly because they are fascinated with it, and that they are investing a good percentage of their savings in other more profitable and secure enterprises.

As no best-seller formula has yet been devised there is a constant search among publishers for a new author or the rediscovery of an old one who will sell. There is an increasing tendency towards publication in the field of sex, sadism, and the smoking gun, particularly in the paperbound field,¹⁰ but in competition with the inexpensive book of enduring value it has been found that the three S's do not necessarily sustain high sales consistently. Boosted by demands from schools and the steadily increasing college population, many a serious title

FRANK L. SCHICK

keeps on selling constantly and thus outselling the sensational novel in the long run.

As publishers are not able to predict the sales of a book accurately, they seek production economies through new materials, methods and machinery. All these attempts point in one unmistakable direction: sooner or later, natural products will be replaced by synthetics. While the last decade is frequently referred to as the atomic age, one may wonder if actually the use of plastics has not changed our daily living habits since the last war considerably more than atomic power. Book production seems to follow this general trend. The basic ingredients for the manufacture of books are board, glue, paste, thread, paper, and cloth. Metals always played a minor role, and where they were used as staples or in spiral bindings, plastics are rapidly winning out over wire. Boards still dominate the field and will continue to do so for a while, according to Daniel Melcher, publisher of *Library Journal*, who keeps a very close check on the development of the physical book. Binders boards are not superior to plastics, but decidedly less expensive. Preferred thread is now made of nylon because of its greater strength and resistance to decay. Paste and glue have undergone revolutionary changes and animal glues are being increasingly replaced by cold and hot-melt adhesives. The advantages of these synthetics are many: their quick drying quality permits assembly-line procedures and eliminates temporary-storage problems; they are almost impervious to moisture and changes in the weather; they hardly dry out and do not get brittle, and are resistant to mildew, fungi, and insects. If hot-melt adhesives have not been as widely used so far as these advantages would recommend, it is due to their high price, and the inexperience and hesitance of the binders to experiment with the fast-setting hot-melt materials (5 seconds versus 4 hours) with high melting points (300-350° F. compared to 140° F.) or to acquire new machinery. Hot-melt adhesives based on poli-vinyl acetate were developed during 1944 and the following years, when W. F. Hall, one of the largest paperback manufacturers, approached Du Pont for the perfection of an adhesive material that would speed up and improve their production. Cold adhesives reported on in October 1955 by Alfred Cahen at the Book Manufacturers Institute indicate that their use strengthens leather or paper by 50 to 100 per cent; they don't warp or break, give permanent flexibility and are water resistant.¹⁵ These adhesives are being used extensively in the paperback field where they considerably improved the techniques of perfect binding.^{11, 12}

When cloth began to replace leather as the preferred covering ma-

Trends in Publications Affecting Binding and Conservation

terial it brought in its wake the casing method which simplified binding and reduced its cost greatly. Adopted in America between 1825 and 1835,¹³ this operation was not mechanized until the first decade of the present century and some leather was still being used for half-leather bindings up to that time. The manpower shortages of the first World War speeded the introduction of case-making machines and robbed leather of its last position as it proved unsuitable for machine production. Starch-filled and coated cloth came into favor and embossed-leather imitation finishes helped preserve memories of the passing age. Pyroxiline (synthetic rubber base) coated or impregnated cloth was used for the more expensive lines until vinyl, a plastic, was introduced. It gave covers greater wearing qualities and resistance to abrasion, water, grease, and smudges.

During the second World War the shortage and high price of cloth turned publishers' attention to papers.¹⁴ Paper producers, anxious to take advantage of this situation, turned out new products, based on art-craft papers which they coated or impregnated with pyroxiline and ethyl plastics. They supplied a great variety of colors and textures and introduced grains imitating leather and cloth. At the same time, these papers were considerably cheaper and permitted savings from two to four cents per book, as quoted in 1949.¹⁵

Plastic-coated cloth coverings have been improved in their ink receptivity for letterpress and lithographic work which has recently been used extensively in the manufacture of preprinted cloth. Previously, the inks used in these reproductions came off easily, were susceptible to scratches and had to be covered by various coatings and lacquers. The new preprinted cloth covers introduced by Row Peterson & Company in 1954 use a dying process of the impregnated cloth and obviate these disadvantages.¹⁶

The latest and most promising development in bindings for hard-cover books involves an electronic casing-in method¹⁷ which requires the use of only one machine, does not rely on adhesives, and uses plastic sheets. This technique seems to promise speed-ups of three to four times the usual casing-in time and a stronger binding which binders could order ready-made from manufacturers.

Another newcomer in the plastics field is a synthetic paper announced by Du Pont and said to be three to ten times stronger than rag or pulp paper. It is made of a mixture of nylon, dacron, polyester, and acrylic fibers. It is supposed to be resistant to chemical and bacteriological decay, as it absorbs very little moisture and is less affected

FRANK L. SCHICK

by light and temperature changes than ordinary paper. At the present time it is still so expensive that its use is not practical.¹⁸

Consideration of the advantages and disadvantages of new binding methods and materials, have to be related to production costs which rose 80 to 90 per cent while the price of books rose only 20 per cent since before the war. Since these figures were given by Daniel Melcher in *Publishers' Weekly* in 1947,¹⁹ there has been some increase in both costs and prices. The change in the prices of books can be ascertained from the following table:²⁰

| | Novels | Biography | History |
|------|--------|-----------|---------|
| 1941 | \$2.58 | \$3.30 | \$3.98 |
| 1949 | 2.86 | 3.98 | 5.06 |
| 1953 | 3.29 | 4.67 | 6.04 |

A breakdown of the manufacturing costs of the average \$4.00 book in 1947 shows the following expense for binding:¹⁹

| | Cents |
|--------------|-------|
| Cloth | 4 |
| Boards | 1 |
| Case-making | 2.5 |
| Casing-in | 2.5 |
| Folding | 3.5 |
| Smyth sewing | 5 |
| Finishing | 5 |

Of this total of 23 cents for binding costs, a large amount is spent on labor, and any means by which costs can be cut even by a fraction of a cent are important, if one considers that the retail sales price of a book, to be profitable, should be from four to five times the cost of its production (binding, printing and paper),¹⁹ and that the publisher's profit margin is very small. The publisher's net profit, after taxes and excluding the profit from sales of rights, amounted to 0.4 per cent of the retail price in 1951.¹⁹ For these reasons, the savings made by using paper instead of cloth for covering purposes are of great importance; they may amount to 3 or 4 cents per book and could require new machinery and handling procedures. However, this investment, as well as in most cases the higher cost of the item, should be more than balanced by the more efficient production.

Paper-covered books in the form of pamphlets, tracts, and chapbooks have been in existence since almost the beginning of printing, and cheap reprint or popular editions in serial form can be traced back to the early 18th century. Inexpensive reprints were paper-wrapped and paper-labelled and eventually showed covers with full printed descriptions similar to the title page information.²¹ About 1820 the

Trends in Publications Affecting Binding and Conservation

paper covers were pasted on boards and this originally temporary binding became eventually a permanent cheap covering. But popular literature continued to use primarily paper covers and found widespread acceptance in the many 19th century "libraries" in the United States and Great Britain, paving the way for the "dime novels" and "yellowbacks," the predecessors of today's paperbacks and comics which crowd the display racks of newsstands, drug, and chain stores, as well as the best bookstores and libraries.

The present wave of paperbacks goes back to 1935 when Sir Allen Lane in Great Britain launched successfully a series of serious, yet popular, inexpensive paper-covered reprints, the Penguin Books, which were mass-distributed through magazine rather than trade channels. This was followed in the United States by Pocket Books in 1939. Since the mass audience had to be captured and kept, production costs had to be reduced to a minimum while the product had to be attractively packaged. This resulted in the use of paper pulp and perfect binding. Perfect binding is not a new process; it is entirely different from regular binding and its results have frequently been less than perfect. Actually, adhesive binding would be a better name for this technique. The pages of the book are properly assembled, the back of the signatures is sliced off, the whole spine dipped into glue or hot melt adhesive, the paper covers are slapped on and the paperback is bound.²² Perfect-bound books cannot be rebound by machine and hand-sewing is not only costly but frequently impossible because of the narrow margins and poor quality of the paper. Sir Allen Lane has always used stitching for his paperbacks. He indicated last November that he was at least considering a change to perfect binding due to recent technological advances and improved adhesives. He never considered using perfect binding before because he wanted to give his customers a good product content as well as productionwise.

Depending on the quality of the glue and the proper consistency, a perfect-bound book may last for quite a while. Libraries have reported as many as 31 circulations for one paperback, but some have come apart after the second reading. At a test of paperbound books made at the Huntington Public Library in 1954, the number of circulations averaged 9.6.²³ The opinions of the library profession as to the content, appearance and binding of paperbacks is divided. The Brooklyn Public Library has made extensive use of them and is circulating them widely. The opinion of other public librarians are brought together in the first issue of the *PLD Reporter*, entitled *Public Library Use of Paperbound Books*.²⁴ Mrs. Elizabeth O. Stone reported on her

FRANK L. SCHICK

three years of experience with paperbounds in a college library in the August 1955 issue of the *Library Journal*.²⁵ The literature on library use of paperbounds is as yet not extensive enough to permit final conclusions.

Perfect binding, which has been used for soft and hard cover books, was tested by the National Bureau of Standards. Regular and perfect-bound books were subjected to accelerated aging, flexing, loading, and pulling of pages and resulted in loosening of pages and sections, cracked bindings, and cover failures. The data showed that perfect bindings, when suitable adhesives are used, are not inferior to comparable sewn bindings. The best paper for perfect bindings is soft absorbent paper, too weak to stand a load concentrated at the stitching. Hard, non-absorbent paper does not lend itself well to perfect binding, though it is occasionally used on inexpensive reprints in hard covers. The pages will not loosen any sooner than in soft covers, but all the pages together tend to break loose from the inflexible cover.²⁶ The fact that paper pulp, which is suitable for perfect binding and less so for sewing, is used in the less expensive paperback lines, provides one of the great library problems. Even with the improved binding, the paper will get brittle as soon as the news print and therefore poses a problem of conservation. This situation changed to some extent with the launching of Anchor Books by Doubleday in 1953, which was rapidly followed by similar trade and text book publisher lines of paperbacks like: Anvil Books (D. Van Nostrand Co.), Beacon Paper Books (Beacon Press), Evergreen Books (Grove Press), Harvest Books (Harcourt, Brace & Co.), Image Books (Doubleday & Co., Inc.), Meridian Books (Noonday Press), Modern Library Paperbacks (Modern Library, Inc.), Vintage Books (A. A. Knopf, Inc.), Viking Paperbound Portables (Viking Press). These publications, with a price range of 65 cents to \$1.95 (in 1955), are printed on stronger paper stock which will probably last as long as the average hardbound book. They are perfect bound, but apparently somewhat more carefully produced and capable of withstanding more circulations. Their existence undoubtedly did not influence the Huntington Study, as they had come into wider general distribution only after the data were collected. In absence of a better name, these series are referred to as quality paperbacks, which is not entirely fair because many other firms like Pocket Books, Bantam, Dell, New American Library, Popular Library, and others previously produced series with titles of similar literary merit, though they were physically inferior. Another designation now used is "not-mass-distributed paperbacks," which again is

Trends in Publications Affecting Binding and Conservation

somewhat misleading as many have enjoyed comparatively high sales and are at least partly distributed through non-trade outlets. Their initial print orders range from 15,000 to 20,000 copies while the less expensive lines are usually produced in lots of 150,000 to 200,000 copies.

Some paperbacks, including those that shade over into the textbook field, like Dover and Anvil books, as well as some of the regular popular lines are original publications. While some of them appear simultaneously or after some time in hardbound editions under a trade publisher's imprint (many Ballantine Books), others, like Gold Medal Books, never reach this stage. They, like Dell First Editions, actually specialize in paperback originals, and while many are not of any literary merit, the acquisition of some of the originals, new translations, and anthologies is in many instances important to libraries which intend to make the record of book production, bound and unbound, available to their readers. There are limited possibilities of acquiring some of these paperbacks in bound form through the prebinding services of the Library Binding Service.²⁷ Some firms, such as Penguin, and, for a limited time, Pocket Books, in its Collectors Editions, brought out several of the most popular titles or those which the publishers considered most worthy of preservation on better paper and in bound form (cloth for Penguin, paper boards and cloth backs for Pocket Books).

Discussions with several paperback publishers, a commercial edition binder and three reprint publishers in the spring of 1955 indicated a more promising approach. If librarians were willing to get together and decide which original paperbacks they would like to purchase in cloth-bound format on good paper in quantities around one thousand or even somewhat fewer copies, the publishers may cooperate in assuming the responsibility of getting library editions produced. At that time, the plans of the Committee on Reprinting of the American Library Association Board on Acquisitions of Library Materials were not yet available, but the mere mention of these plans which are to provide "a recognized channel through which libraries can notify publishers of their reprinting needs so that publishers may secure information to gauge probable sale of reprints,"²⁸ aroused a good deal of interest and seems to be the only feasible way to get selected paperbacks in permanent form into libraries. If titles in dual format were thus made available, the advantage of inexpensive paperbacks for mass consumption and the permanent copy for preservation could be combined.

FRANK L. SCHICK

In 1955, the "coming of age" of the paperback industry was demonstrated by several publications. The R. R. Bowker Company brought out the first bibliographic tool exclusively devoted to paperbacks, *Paperbound Books in Print*, an index to 4,500 inexpensive reprints and original editions with selective subject guide, scheduled to appear three times a year.²⁹ The Paper Editions Book Club was established in Palo Alto, California, and the same firm issues a magazine of "the best in paperbound books" called *Paper Editions*.³⁰ Production of paperbound books increased from 6 million copies sold in 1940 to 95.5 million in 1947 to 240 million copies in 1953.³¹ Sales volume in 1954 was generally up about 4 per cent over 1953,³¹ and while there was a crisis in paperbound sales in the spring of 1954 due to an overloading of the market, the situation improved considerably last fall and the addition of the new paper-covered trade book lines at higher prices and even wider distribution should result in an increase in sales figures for 1954 and 1955.

Prebinding establishments owe their existence to the unsuitability of edition bindings for heavy library use and librarians' preference for neat-looking books. There are several firms engaged in this work in which the H. R. Hunting Co., Inc., has pioneered. Prebinding "has grown up quietly alongside the older practice of rebinding."³² The prebinders purchase sheets from publishers and provide a stronger binding which lasts about four times as long as the edition binding. Some libraries insist on prebound books even when sheets are not available from publishers, necessitating removal of the original bindings by the prebinders. The strength of the prebound book lies in the way it is sewn (Singer side-stitching for width of $\frac{1}{2}$ " to $\frac{3}{4}$ ", and oversewing for heavier tomes),³³ and in the heavy buckram used for covers. Prebinders usually supply any in-print book the average library wants. The H. R. Hunting Company acts as wholesaler for publisher's bindings as well as prebinding and will get the librarian "any book of any publisher in any binding."³³

Prebinding methods have changed little over the years, except that the oversewing is now done by machine instead of by hand. The typical buckram bindings, without decoration except the descriptive lettering on the front cover and spine, are not particularly attractive, and lately several steps have been taken to improve the appearance of prebound books. The Hunting Company has introduced "Plasti-Kleer Economy Bindings" which use the original publisher's dust jacket covered by a plastic jacket fitted to the book.³⁴ Hertzberg New Method, Inc., with their Treasure Trove Covers and Library Picture Covers

Trends in Publications Affecting Binding and Conservation

provide cloth bindings illustrated by the silk screen process or by printed designs adapted from illustrations in the book.⁵²

The demand for prebound books is especially large among children's librarians who find the average edition binding unsuitable for young readers. In response to their demands, Aladdin, Crowell, Doubleday, Scott, and Simon and Schuster, as well as some other publishers have issued some of their children's books in two editions, a regular trade edition and a library edition with reinforced bindings, Singer or McCain side-sewn, for which they charge little more than their own added cost. If publishers have not gone any farther into this development, it is due to the inability of most edition binderies to engage in oversewing, and to the considerable financial risk for publishers who cannot accurately anticipate the demands for any book, let alone the demand for its library edition.

A great variety of materials in pamphlet or unbound book form held together by some adaptation of the ring-book mechanisms, loose-leaf-type covers and spiral bindings, enters libraries every day. It seems hard to believe that this type of gathering has only been prevalent for the past twenty years. The first U. S. patent on wire type bindings was issued to the German inventor Ludwig Staab in 1924, but the first true spiral binding was patented ten years later by the Frenchman Samuel Groener. His invention had a coil with the end locked in place. In 1934 the first comb-type plastic binding was patented.⁵³ Their use steadily increased after the war with the greater production of plastics.

The main advantage of the loose-leaf-type mechanism and the spiral binding lies in the fact that the book held together in this fashion will lie perfectly flat on a table. For this reason, manuals, cook books, etc., lend themselves to this process. The loose-leaf mechanism permits flexibility of content insertion and removal of pages, a feature of value in publications aiming to be kept up to date. The plastic spiral binding held together by individual rings has its main usefulness in calendar type publications where one page only is visible at one time and the others are completely folded back.

The comb-type spiral wire binding seems to have retreated in favor of the plastic type in the past few years. These can be adapted to a wide range of thickness, pages turn freely and are in alignment, the binding itself is very cheap and the large variety of available colors makes it possible to blend it with the cover papers and printing. During the last few years the plastic has been made sufficiently strong to withstand damage in shipping and normal use. The outstanding dis-

FRANK L. SCHICK

advantages seem to be that careless use permits the shedding or tearing of the leaves and that in spite of the attractive colors a mechanically bound book just does not look like a book. Some of the manuals and magazines printed on heavy, smooth paper stock are attractive and hold up well in this form, but so far no regular trade book of this binding type has been developed.³⁴

The evaluation of binding problems for American libraries caused by foreign book production and import would require statistical data of book production by categories of bound versus unbound books. Yet, when turning to statistical data in this area which is of importance as a yardstick of cultural values, all roads quickly seem to lead into a terrain of quicksand. Speaking only about the United States, Robert W. Frase, economic consultant to the American Book Publishers Council, has this to say: "The two most important single things anyone would want to know about the book business in this country are the numbers of titles published each year, and the number of copies of books sold each year, with an appropriate breakdown in each case for *classes* of books (e.g. textbooks, encyclopedias, general books, etc.) and *types* of books (e.g. biography, history, poetry, fiction, etc.). Unfortunately, this fundamental information does not exist."³⁵ *Publishers' Weekly* gives a yearly tabulation of new and reprint titles, broken down by types, but does not mention the number of copies sold. The U.S. Census of Manufacturers gives information on the number of copies, but this cannot be related to the information in *Publishers' Weekly*.³⁶

The data on world book production reflect the American picture. The *Unesco Bulletin for Libraries*, January 1954, gives a survey of the number of titles published by 27 countries in 1952 (Russia is not listed). Six of these countries published more than 9,550 titles:³⁷

| | |
|----------------|--------|
| United Kingdom | 18,741 |
| Japan | 17,306 |
| West Germany | 13,913 |
| U. S. A. | 11,840 |
| France | 10,410 |
| Italy | 9,679 |

The Library of Congress collected data on the same subject listed in the *Library of Congress Information Bulletin* of October 25, 1954, but the figures do not compare with the above because there is no standard definition for what is considered a book and the Library of Congress admits that the data can be "added and compared only with an attitude of unconcern for elements of statistical validity."³⁸

Trends in Publications Affecting Binding and Conservation

Various interpretations may also be given to what constitutes a pamphlet and how many reach United States libraries is anybody's guess. Imports of books and other printed materials in thousands of dollars over the past few years give the following picture:

| | |
|------|------------------------------------|
| 1944 | 5,634 |
| 1946 | 11,783 |
| 1948 | 13,694 |
| 1950 | 13,958 |
| 1952 | 18,986 |
| 1953 | 18,999 (preliminary) ⁴⁰ |

A breakdown by country of origin clearly shows the dominant position of Great Britain, which accounts for approximately 60 per cent of the books imported into the United States and, together with Canada, supplies about two-thirds of American foreign book needs.⁴⁰ This is significant because British and Canadian books published in English are about as frequently clothbound as American trade books and pose the same binding problems. Their paper stock does not bulk as heavily and actually, American publishers would just as soon use similar paper, but they feel that the average American customer expects a substantial package if he pays four or five dollars for a title.

The countries of the Romance-language group consisting of France, Belgium, Italy, Spain, Argentina, and Mexico which account for approximately 13 per cent of imports by dollar value in 1952, publish their average book sewn on good paper, but in paper covers. As a rule, they only bind encyclopedias, dictionaries and similar reference books. Since their books are inexpensive in comparison to American or even British books, the book dollar will buy more copies but these require additional binding expenses. Countries of the Germanic language group, including West Germany, Denmark, Sweden, the Netherlands, and Switzerland, accounted for approximately 16 per cent of imports by dollar value in 1952 and generally have a higher percentage of clothbound or paper-boarded books. West Germany which published very few clothbound books in 1945 had a remarkable comeback in its book production and improved the quality of its bindings probably to prewar levels. The cloth used by all European countries is rarely up to American strength or standards but since foreign books do not get the same wear as American titles this difference will be equalized in every day usage. Other countries, like Israel and Japan, show a strong preponderance of paperbound books in their products.

To corroborate the above information, the heads of the two largest New York book importing firms were consulted. They said that the

FRANK L. SCHICK

largest percentage of the books that are sold to American libraries unbound or that have to be bound for their customers come from France, Italy, Spain, and South America.

There are three ways in which libraries can handle unbound imports:

1. Have them bound in the United States by library binders according to American standards.
2. Have them bound by the importers.
3. Have them bound by the exporter or a binder in the country of origin.

The best product will undoubtedly be obtained through the first procedures, but it necessitates separate handling of the invoices, the paper work connected with binding orders and the handling of the shipments to and from the library. The second method may or may not result in equally good bindings, will cost approximately the same, but save the library a good deal of paper work and handling expenses. The third method gives the same advantages as the second (i.e., one invoice will cover the cost of the book and the binding), the binding costs will be considerably cheaper, possibly as much as 50 per cent, the postage will be somewhat higher, and the quality of the cloth or paper used considerably poorer.

The shape of books to come will be increasingly influenced by technological developments in books production. Rising costs of printing and publishing may have a diffusing effect and force books into the covers of magazines, articles into the field of separates, and cloth bounds into paperbacks. Foreign imports of unbound materials and increasing production of American paperbounds will stretch the libraries' book budget and shift an increasing load on the binding budget. Plastics and electronic developments have left their marks on the book as we know it today, and photomechanical reproduction methods and audio-visual materials are competing by giving information traditionally contained in books, just as pamphlets, periodicals, newspapers, and separates have done in the past. Actually, all these are merely containers of knowledge and while they should be attractive, useful and durable, the content rather than the format is what is important for our civilization.

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FRANK L. SCHICK

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Conservation of Old and Rare Books

ROLAND BAUGHMAN

A GLANCE AT THE CALENDARS of recent American Library Association conferences will give substance to the impression that, throughout the United States, there is a deepening awareness on the part of librarians not only of the need for acquiring increased resources in old and rare materials for use by the present generation of students and scholars, but also of the growing responsibility of providing proper care for such materials after they are acquired, in the interests of future generations of investigators.¹ One symptom of this is the burgeoning movement to create "rare-book rooms" and "departments of special collections" in college and university libraries. Some of these, one suspects, are being formed without full appreciation of the budgetary implications that are involved. It is becoming a common annual experience with established rare-book librarians to receive communications from other libraries where rare-book rooms are being set up, requesting the names of suitable candidates for posts in them. All too often the salaries offered indicate the good administrator's inherent desire to send up trial balloons at the lowest possible cost. This is despite the fact that he usually specifies that a rare-book librarian must have qualities and qualifications not normally developed by library-school curricula. It must be assumed, in such cases, that one of two possibilities holds: either the administrator in question feels he must do something about preserving the old and rare books in his collections, with or without proper budgetary support, and the best way to do it is to make a start; or, on the other hand, he may be basically unconvinced of the soundness of the rare-book department concept as applied to his own institution, while being aware of the necessity, for policy reasons, of saving face among the Johns and the Elis in rare-book matters. In the latter instance, the desire to keep the financial commitment within bounds is thoroughly understandable.

Nevertheless, as seen from an admittedly biased point of view, there are elements in the second, negative attitude which breed doubts;

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ROLAND BAUCHMAN

and the sudden splurge in "special collections" departments could quite conceivably result in a strong counter movement—which may, in fact, have begun already. Librarians at Columbia University, for example, which has one of the largest special collections departments in the country, are seriously concerned over the necessity of finding a means of overcoming some of the difficulties of administration brought on by the inevitable and rapid growth of files of "research materials." The result of this concern may be a wide departure from most current rare-book concepts.

Rare-book divisions are by nature expensive to operate, whether they are administered by a special staff or are saddled on some existing department of the library; and this expense must sooner or later be justified to those whose business it is to scrutinize budgets. At best such divisions constitute an interference between the scholar and his resources. As a result many a scholar, who will put up with almost any inconvenience (because he must) when he visits an off-campus research library, becomes a natural enemy of the rare-book room in his own institution. Finally, rare-book rooms too often tend to dramatize the trivial, off-beat holdings of a library. Where these receive a lion's share of attention, there is likely to be a very natural and just resentment within the library itself. All of these factors constitute dangers, if the decision to establish the rare-book room has not been reached as the result of careful consideration and in answer to a thoroughly defensible need. The establishment of an expensive rare-book department in a small college library may, for example, result merely in an elaborate set-up to discourage use of the materials placed there. If this is the desideratum (and it might well be justified) it could be achieved as well by the time-honored custom of locking the books up in the librarian's safe, or in some out-of-the-way closet, or in a display case in the library vestibule.

The answer that has been most commonly reached in recent times, however, is that of setting up a little island of reserve within the library system, where "rare-books" and "special materials" can be sequestered, away from the casual—too often predatory—fingers of dilettantes. The fact that these materials usually include, by plain necessity, the library's holdings in thumb books, dubious fore-edge paintings of modern vintage, the founder's wife's album of pressed flowers, books bound in human tegument (preferably from the mammary areas), books on sex hygiene, and the like, has contributed to cause the down-the-nose looks that are so often directed at "rare-book rooms." At the other end of the spectrum is the application of

Conservation of Old and Rare Books

rare-book selection codes which prescribe, for example, the segregation of every book printed prior to 1820 in the area of the United States, or all the works of Henry Miller, or every book having a current value of more than fifty dollars, or of an edition limited to 300 copies or less. Such attempts at rare-book selection by blunderbuss have several results that jeopardize a basically sound concept: indiscriminate growth of the rare-book collection for its own statistical sake; relaxation or over-complication of reader regulations to take into account various degrees of "rarity"; and of course the inevitable non-staff reaction, "For heaven's sake, why is this a rare book? I saw a copy in Blank's catalog just the other day for two and six!"

Consideration of such fundamental points will surely lead us face to face with more practical problems. Granted that control of access (which is or should be at the bottom of every decision to set up a rare-book room) is a primary step in preservation, what further ones will be needed to ensure the integrity and completeness of the record for future generations of students and scholars? How shall we describe and classify rare materials? How shall we prevent deterioration? How shall we strengthen failing paper and parchment and leather to overcome deterioration that has already taken place? How far and how fast shall we go in adopting the technological discoveries in plastics and photography and transfer processes?

It is not in the prescribed scope of the present article to deal with the problems attendant on the preparation processes for rare materials—though, to the writer, this is a matter for some regret. Someone must do something soon to counteract the atmosphere of art and mystery that has come to surround "rare-book cataloging," and recent motions toward standardized procedures in the description of manuscript collections appear to be pointing toward the old familiar log-jam, where the cost of preparation will seriously inhibit the decisions to acquire useful collections. But this is a theme for separate treatment.

The monographic literature relating to developments in book preservation techniques since World War II is scant. This is scarcely a new situation; such literature has always been scant. Between Cockerell and Lydenberg-Archer² there was little, and between Lydenberg-Archer and today there is less. But the war, on one hand, created special problems for libraries involving budgetary considerations which have made economies mandatory; while on the other hand there were technological developments outgrowing from the war which have ushered in a period of busy experiment. Nowhere in library literature have all the results of these economies or the application of the tech-

ROLAND BAUGHMAN

nical experiments been brought together between covers, although M. F. Tauber and his associates have discussed many of them.³

This should not be interpreted as meaning that the literature of book and document preservation is lacking—quite the opposite is true. But it is to be found for the most part in notes and articles rather than in books; and this is perhaps just as well, because any definitive treatment of the subject at this stage would almost certainly run the risk of being out of date before it could be published, considering the rate at which new developments are taking place.

The overwhelming majority of these notes and articles are concerned with the librarian's perennial head-ache, rebinding. Rising costs of labor and material are primarily responsible for this situation, bringing forth ceaseless efforts to circumvent the realities. In most institutional budgets book funds and binding allotments constitute a single line; other things being equal, then, rising binding costs jeopardize the acquisitions program, and vice versa. "Budget binding" has therefore come in for a good deal of attention, and do-it-yourself mending techniques have burgeoned. The good which has resulted from increased understanding and awareness of their problems by librarians may well have been offset by the evils of misapplication. The matter came to a head in the late forties, and in 1951 appeared the *Library Binding Manual*, issued under the joint sponsorship of the A.L.A. and the Library Binding Institute.⁴ As might be expected, not everyone was satisfied, and in 1953 Flora B. Ludington, then A.L.A. president, issued a statement outlining "areas for study" at the forthcoming Cincinnati conference.⁵

These matters, of course, are related for the most part to the regular rebinding problems of libraries. "Rare books" are always carefully excluded from mass-production techniques, and it has usually been tacitly or implicitly understood that when rebinding or repair of old and rare books is under consideration, nothing will take the place of knowledge and careful thought on the part of the decision-making librarian. This is all very well, but it implies two points which cause concern. On the one hand, assuming that mass techniques are entirely suitable for general library purposes, why should they be excluded completely from rare-book departments—unless one wants to reach the unguarded conclusion that its presence in the rarebook room guarantees a book's rarity? On the other hand, assuming this time that mass techniques are only suitable for expendable materials, how is tomorrow's rarity to be recognized before it is ruined? It seems unlikely that

Conservation of Old and Rare Books

many copies of the first printing (in journal form) of Einstein's theory of relativity have escaped the binder's knife.

Yet it remains part of the canon that "rare books" deserve only the time-honored best—hand sewing, leather covers, expensive boxes and cases, laborious remargining, sheet-splitting reinforcement, facsimile reconstruction of missing portions of text.⁶ In other words, only the most costly treatment—which in no way guarantees the ultimate suitability of the work. For some reason, no doubt a most adequate one, it is generally accepted that rare-book librarians are all born with permanent twists in their necks, which prevent them from looking in any direction but backward. Granted that one of the surest ways to create respect and even reverence in the breast of a reader is to hand him a volume dressed in rich morocco and ornate with hand tooling (he might use the same work in shabby contemporary sheepskin as a rest for his notebook), there is still the nagging notion that, for example, some of the plate books of the 1880's and 1890's would be better off, not with their leaves expensively stubbed or tightly oversewn in such a way as to prevent their being opened flat, but in "perfect" bindings, making use of the new vinyl adhesives which have been shown to be stronger than the paper itself and of indefinite lasting qualities.^{7, 8}

In the matter of repair and reinforcement of mildewed rag paper and disintegrating wood-pulp sheets a great deal has been tried out, but the conservative rare-book librarian is still reluctant to submit his precious documents to such treatment. No doubt he is right to be reluctant; he has been burned too often. Silking, it now develops, gives only temporary strength, tissuing reduces legibility, plastic sprays and laminations may seal in existing weaknesses and the acids which produce deterioration in papers. Most recently a process known as "print transfer" has passed the experimental stage;^{9, 10} this process is discussed fully elsewhere in this issue. It promises much in certain applications, but one hesitates to speculate on what firepower it would have given T. J. Wise, had he known of it when he faced his accusers in 1934.

Many of the more recent counteractive measures against loss by deterioration show respect for the cost factor, and this is all to the good. It seems probable, however, that this consciousness of the need to keep costs under control stems from the research librarian's compulsion to do something about his perpetual problem-child, the ubiquitous newspaper. While these waste away on shelves the search goes on for an inexpensive method of preserving them. The method

ROLAND BAUGHMAN

must be inexpensive, because the task is so great. Surely so much thought will provide, eventually, the acceptable answer. If it comes in time many of our problems of preservation will be solved, not only those pertaining to newspapers, but also—and more importantly—those connected with the other "little-used" materials which now lie moldering on so many library shelves. As things now stand, not a few librarians have simply thrown in their cards; in the case of newspapers especially there is a growing tendency to discard those of the woodpulp era, and to rely on microfilm to meet the readers' immediate needs and on George for the preservation of the record.

On the whole the literature reveals that librarians seem to be more directly concerned with remedial rather than with preventive measures to combat deterioration. (The setting up of rare-book rooms is of course an exception.) Despite the warnings of experts,^{11, 12} the librarian's high-pressured search for the formula for achieving an adequate number of footcandles at table height sometimes causes him to forget the harmful effects of light on books and documents. These effects reflect a simple equation; candle power times length of exposure. Identical evil results can be obtained from exposure either to the direct rays of the sun or to a single 40-watt bulb, providing the length of exposure is adjusted to the power of the light source. And yet we cannot read in the dark. It is only a question of time before useful documents are subjected to light in harmful degrees. The use of actinic glass and other measures designed to reduce the effects of light are at best stop-gaps; the dilemma of the rare-book librarian is that, in theory at least, he must think in terms of eternities as well as of days and years and generations. And the fact that exposure of a document to direct sunlight will kill organisms which produce mildew and foxing does not alter the fact that those same rays have a destructive effect on the fibres and pigments of the document.

Air conditioning, however, is one preventive measure that is given considerable (if usually somewhat wistful) lip service, though the number of libraries in the United States which have full air conditioning is still but a minor fraction of the total which apparently aspire to it. Nor do all of the libraries which claim air conditioning actually have it. Air conditioning as a means of book preservation¹³⁻¹⁶ must not, as is so commonly the case, be confused with the same term used in connection with office buildings and Chrysler Imperials and reading rooms. Rendering the atmosphere comfortably cool and invigorating to human beings has nothing but incidental relationship to air conditioning for books and manuscripts. As an aid to preservation, air

Conservation of Old and Rare Books

conditioning means year-in-year-out temperature control at from 65 to 72 degrees, a level inhibitive to the development of insect pests. It means control of the relative humidity within no greater range than 45 to 55 per cent, to prevent the expansion and contraction of glue, paper, cloth, and leather caused by normal daily variations, to lessen the chemical and physical reactions which extremes of dampness and dryness foster, and, taken in conjunction with temperature control, to arrest the development of molds and mildew and other harmful fungi. It means ridding the air of deleterious gases and of foreign matter such as soot and dust; the removal of the latter from books and manuscripts by means of dust cloths in careless hands can be one of the worst factors in binding deterioration. It means control of air motion and distribution, so that abnormal pockets are not allowed to develop. It means constancy and regularity. The system must not be turned off at night or during the pleasant days of spring and fall, because air conditioning has only indirect reference to the out-of-doors; nor should it be permitted to mirror the fluctuations which may take place in the institutional budget. An air conditioning system for book preservation which can be turned off because the maintenance budget is running low is in fact no air conditioning system at all, and if this seems to be a laboring of the point, it is suggested that the outraged reader check into the practices of his maintenance staff before writing his letter of remonstrance. One librarian recently reported to the writer that nine full cycles of bookworm infestation occurred in his library during a single year when the air conditioning plant was out of commission. Another reported that he must maintain constant vigilance over one area of a non-air-conditioned stack, because almost the minute when the relative humidity there reaches 60 per cent, he is faced with an active mildew problem.

All of this looks pretty expensive and pretty complicated, as indeed it is. One might properly question, in fact, whether the expenditure in money and man hours would be justified in any but our greatest repositories of rare books and manuscripts (some of the most notable of which, it must be reported, have been unable to install it). And it should be added that a watchful eye is needed to make certain that an air conditioning system, once installed, actually does the work it is supposed to do because external conditions change. H. C. Schulz, now curator of manuscripts at the Huntington Library in southern California, was able to report in 1935, relevant to the air conditioning system in use in his institution: "Owing to the great distance of this library from any large industrial center, and to the local use of oil

ROLAND BAUGHMAN

and gas in preference to coal, such destructive impurities as sulphur dioxide do not offer the serious problem which confronts libraries in the larger eastern cities."¹² But that was twenty years ago; since then the industrial section of Los Angeles has expanded enormously, and for much of the year a pall of smog envelopes the area which contains the Huntington Library. This change in external conditions has forced a thorough re-study of the air conditioning requirements at the Huntington Library, which is now under way.

It is matters such as these that indicate the extent to which librarians as a class are beginning to think along lines other than mere nameless yearning in connection with the preservation of our cultural heritage. There is an urge to do something direct and definite about the steady loss, mutilation, and ruination which too often attend the increasing rate at which materials for historical and literary research are being gathered into our libraries. Time was when "curator" meant "caretaker," and "librarian" was a term related somehow to "watch-dog." But for a generation or more—nay, Sibley (who seems to have met and recognized every problem in the librarian's book) was active in the Civil War period,¹⁷ and Dewey's greater contributions had been made before our century was born—we have resented the implications behind our titles, and have sought to make librarianship synonymous with ease of reader access. This in turn has brought its own censure, and "librarians as enemies of books" is an appellation that has given us little quiet of mind. We have had it brought home to us that the very act of gathering into our libraries the literary products of our culture has, in all too many instances, furthered its destruction rather than its preservation. Now we are in the process of searching for some means of being all things to all men. The literature reflects the dilemma.

This article has had two primary objectives: first, to focus attention on at least a few of the areas which require deeper and more rational analysis; and second, to answer none of the questions raised. The latter objective, at least, has been achieved. As to the former, the present voice is by no means one lifted in the wilderness—the problems that are underscored here are being increasingly appreciated across the breadth of the land. And this is heartening, for no problem that is understood is ultimately unsolvable.

Conservation of Old and Rare Books

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Problems of Periodical and Serial Binding

SIDNEY DITZION AND
LEVERETT NORMAN

IN A VERY REAL SENSE the binding of serial publications, especially when they have been periodicals, has circumscribed decisions in almost every other area of librarianship. Librarians generally, and particularly those serving in academic institutions, have long observed the principle that a periodical should not be subscribed to unless there is also the intention of binding completed volumes in book form. The cost of acquiring, recording, temporary shelving, and maintenance prior to such binding is different from that which pertains to other books because of the added time and attention each title must receive before it completes its period of probationary surveillance in the final ceremony of binding. Special problems of serial cataloging and classification also enter into, and are created by, the process of serial preservation by binding. And to add quantity to the quality of serial binding problems, these latter decades have witnessed an expansion of specialized and scientific serial publication to implement explosively expanding frontiers of knowledge.

A book is a book is a book, that arrives at a library usually in its own sturdy shell, gets its bibliographical treatment, and is no longer much of a financial burden to the library's technical processes. But a periodical, or any serial which arrives in unbound form, remains in the dependent state until confirmed by a hard cover. During this period, librarian parents are ever anxious, often over-anxious, that a part may be lost or kidnapped, that an outer garment may be rent, bent, curled, or weather-beaten so as to render said infant difficult or impossible to recognize. Where funds permit, it is therefore advisable to duplicate heavily used material and to bind as soon as possible. Experience has shown, moreover, that an open-shelf arrangement of current serial publications has resulted in staggering losses, creating a very serious problem when issues are reported out of print and unavailable. Non-

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Problems of Periodical and Serial Binding

commercial publishers of periodicals limit the size of their editions almost to the number on their subscription list. Even in the field of commercial publications lack of space prohibits retaining large numbers of back issues in the offices of publishers. Replacing a single lost issue becomes an expensive and time-consuming process, involving in some cases, years of search through exchange lists and dealers' catalogs.¹

Above and beyond the problems of preservation for binding, large numbers of impoverished librarians worry constantly about where to find funds to bind completed volumes—and with prices so high! So far as can be determined from examining library binding prices over the last decade or so, an increase of from thirty to forty per cent is not out of line with other consumer prices or with most library budgets. The library binding industry seems able to justify price increases, and cost conscious librarians seem to acquiesce in the increases.² Perhaps we should look into the libraries themselves for ways and means of reducing binding expenditures. Of all the cost factors—overhead, labor, material, and profit—the only worth-while point of attack is labor cost, both in the bindery and in the library. (Binderies operated by libraries are discussed on another page in this issue.) Cost reductions in the bindery seem to have their greatest potentiality in standardized binding instructions and in a rational division of labor between library and bindery. Economy within each library is certainly amenable to better control than now exists.

The cost of binding a serial volume consists of the cost of preparatory processing plus the binder's billed price. Commercial binders have atomized their routine of binding a volume into some fifty operations. Some of these operations are partly or wholly duplicated in many libraries and they need not be. If the processes themselves are not duplicated, certainly there is a good deal of precious time devoted by librarians to giving instructions about the physical treatment of volumes which binders are well equipped, generally better equipped than librarians, to decide for themselves.³ If a binder is unable to make intelligent decisions about the kind of sewing, trimming, etc., required by an item, he deserves an opportunity to come up to a librarian's standards: if he fails, there are many others who won't. A librarian's obligation is usually fulfilled when he ships a volume, complete with index, supplements, and other integral parts. Binders have traditionally supplied routine labor for page-by-page inspection and for run-of-the-mill matters of collation, and supermeticulous librarians must not try to supersede them. Of course, in the instances where serials have

SIDNEY DITZION AND LEVERETT NORMAN

intricate and bibliographically significant physical arrangements, it is necessary for a professional librarian to provide detailed instructions or even collate such volumes for sewing.

Which leads us to an observation on the use of costly professional talent in the library's binding routine. There are comparatively few questions about the large body of periodical binding which need professional attention. Much of the work is periodically repetitious; and in spite of library humor—born of despair—about the psychopathology of periodical publishers, most titles live perennially conservative and static existences. There is little reason why clerical workers and student assistants under professional instruction cannot operate the binding routine adequately, provided they obey the injunction to take no step which is not covered in a briefing or in a brief manual.

There are two principles of administrative or industrial efficiency which are highly appropriate to library binding routines, but which are only infrequently observed. These are: (1) the principle that a higher level of ability or talent must not occupy itself with tasks which can be performed by a lower level of available ability or talent; (2) the principle of the calculated risk. Practically speaking, professional librarians will make fewer errors in the preparatory routines of binding. But the library's cost of avoiding one or two errors (which also get by the binder undetected) will run into hundreds of dollars of professional time. Add to this the detailed recording and checking procedures employed in all too many libraries, and the economics are more than self-evident.

In the last analysis, serial volumes are preserved for readers; and if readers can conveniently find what they want when they want it, a library's job in this respect has been done. The question may seriously be asked whether there is much point in our professional debates and decisions as to the placement of infrequently used contents pages and indices to periodicals. The professional time and talent which goes into maintaining caviling distinctions and uniformities could well be used elsewhere. Once librarians and binders agree—as they must—that contents pages should be at the beginning of a volume and index pages at the end, unless an uncooperative or idiosyncratic publisher has forced another placement, need specific instructions on the point accompany every periodical volume which moves from a library to a bindery? If, by mishap, a contents page wanders to the wrong side of a volume, little is lost. The occasional reader who finds volume by volume perusal preferable to use of indices and bibliographies will soon enough discover the object of his quest.

Problems of Periodical and Serial Binding

The *Library Binding Manual*⁴ would have it that indices and such are not matters of consequence if a periodical is indexed in some dependable cooperative compilation. To an extent this is true; but it breaks down when the reader has failed to copy some small detail of his reference and does not want to be sent scurrying back to the source of his information. The index becomes important in such cases, as does the practice of binding in the front covers of each issue, as well as contents pages of individual issues where they exist. The point still remains, however, that matters such as this need not concern library experts at each step of the way.

There are, on the other hand, decisions which have to be made regularly on the basis of meaningful experience which only some years of professional service can provide. These are decisions involving economy or extra expenditure, which apply to binding two or more periodical volumes in one physical book, or the converse, binding one volume in two or more books. Probable frequency of use and probable wear-and-tear govern these decisions, matters which can be learned only after considerable observation in a specific institutional context.

Binding policy on monographic serials is an especially hard nut for large public, academic, and research librarians to crack. It is enmeshed in so many ways in publishers' practices, past library binding decisions, home circulation policies, as well as the manner and frequency of use. These considerations must, in turn, function alongside considerations of cost.

For most intents and purposes paper covered monographs in series are no different from other books and, when they need binding, theoretically should be treated like independently published books. But what if these volumes constitute a substantial run in a series much of which had already been acquired from a publisher or other previous owner who had bound them two or three monographs to a physical volume? There is every reason to expect that the portion acquired previously would have been cataloged and classified as a unit. The logical and economic decision to make—unless a very compelling circumstance intervenes—is to bind the newly acquired paper covered monographs in groups. Binding two-in-one is generally no more economical than binding singly; and there are obvious advantages to having single works bound by themselves. But if three or more can be bound within one cover, then economies begin to show.

Doubtless the binding of single monographic works singly is the practical as well as the bibliographical ideal. The library which holds to this rule invariably, however, should not be heard to complain of

SIDNEY DITZION AND LEVERETT NORMAN

squeezed budgets and binding arrearages. The point, that bibliographical arrangement requires absolutely that individual titles be assigned individual classification symbols, seems no longer as compelling as it once did. The testimony of students and scholars, the usual readers of such monographic works, is that shelf classification is the least used approach to materials of this kind. The subject catalog, the printed abstract or bibliography, the scholarly review and the footnote citation, rather than carefully wrought library classification, are the true signposts for monographic series. Moreover, minute classification seems to be breaking down as scholarly writers produce interdisciplinary works which defy the very classification system which renders shelf arrangement most useful to readers.

The remaining criteria for serial monograph binding practice—manner and frequency of use, and comparative costs—must submit to pragmatic test questions such as: How likely is it that two readers will simultaneously request monographs which have been bound under one cover? How often will a reader want one of these monographs for home use, thus having in his possession (during the period of out-of-library use) a few books instead of one? Large public libraries which stock but do not generally circulate reference and research materials of this nature, would seem to have little reason to bind singly. University libraries in institutions where there exist strong graduate departments in certain fields would be under compulsion to bind singly at least in these fields. Special scientific and scholars' libraries would have the greatest need to classify and bind such monographic serials separately. Smaller institutions of all types seldom receive any monographic serial set in anything like its entirety. They would treat such books as they would similar works which are not in series. If a budget so dictates, paper-backed monographs can live long, fruitful lives without binding, or in home-made pamphlet bindings.

The compulsion to bind every regularly received serial publication is a malady which besets large numbers of librarians and upsets them chronically when financial considerations prevent them from doing so. Notwithstanding the fact that hard covers provide security against future mutilation, there are many periodicals which need not be preserved forever wherever they are subscribed to. There are some which may not merit preservation at all. Some libraries, either because they are located in large urban centers with mighty bibliographical resources in other institutions, or possibly because they are cooperating in joint storage arrangements, or are resorting to micro-

Problems of Periodical and Serial Binding

reproduction, may mitigate their binding program somewhat. Others may want to use lesser means of preservation than optimum library binding.⁵

There are a variety of substitutes for prompt serial binding, to be used either while waiting to locate a missing part, or while waiting to discard at such a time when a particular title has outlived its usefulness in a particular library. Some of these alternatives are also useful for permanent preservation of little used titles. There are the drill-and-stitch techniques which produce a sturdy volume for many a year's reading.⁶ Cardboard wood-reinforced boxes have been used over the years, but have been generally judged fragile, space consuming (because of unalterable thickness), awkward and an expensive substitute for binding. The plastic liquids which, when applied to the compactly pressed edges of a group of magazines, uniting them into a single flexible-backed volume, have not yet had time to prove themselves good or ill. Combinations of elementary sewing, plastic application, and commercially prepared binding-cases promise permanence and are useable where a library has more labor supply than binding budget. High school libraries, small public and branch libraries, and a few small college libraries are using such alternatives with great satisfaction thus far. Tying a bundle of magazines with soft twine or tape, in brown board or not, still has no rival for speed, price, and preservation.

In times gone by, when business was very slow and library budgets were abnormally low, library binders encouraged the use of flush binding—at least for less frequently consulted magazines;⁶ the economy of time and materials is substantial if this method is used. But of recent years binders have talked this method down, indicating that savings are not large enough to warrant the use of an inferior type of binding. Librarians may well wish to look into cheaper methods especially for that large area of specialized serial output that must be preserved for limited numbers of readers.

Financial problems may direct decisions in many respects, but, in the last analysis, service considerations do take precedence; and, of all the questions which must be answered with regard to serial binding, that of scheduling seems most frequently discussed by librarians and most complained of by readers. Alas, there are too many variables in this problem to make simple answers possible. Among the factors upon which periodical binding schedules depend are: the size and nature of the library institution; the number of titles subscribed to; the degree to which the instructional program, or reference divisions

SIDNEY DITZION AND LEVERETT NORMAN

in non-academic institutions, make use of this form of literature; and budgetary allocations. The ideal of uninterrupted service, except where libraries close for a month or two each year, appears to be unattainable.

A recent survey of periodical binding schedules in college and university libraries⁷ revealed that the majority of libraries follow some plan in sending periodicals to the bindery, but that few plans systematically consider reader service. The conclusion reached was that "most plans are based solely on preservation of materials." The author states that "The trend within recent years toward greater use of serial literature as a major tool in higher education is clearly reflected in college and university acquisitions . . . the necessity of removing this type of material from circulation for binding, . . . creates a serious service problem."

In an effort to improve reader service, a questionnaire was devised, listing sixteen possible procedures. Certain general measures included a prearrangement with the bindery as to timing of shipments, and an understanding with the bindery as to time limit allowable for binding. Other specific measures, affecting individual titles, included a schedule for binding weeklies, monthlies, and quarterlies at regular intervals; duplication of some titles; and a staggered schedule for important indexed titles in general and subject fields. Of the sixty-three libraries reporting in the survey, none believed that any proposed plan could achieve complete uninterrupted service; although all agreed that an improvement in reader service, described as "infrequently interrupted service," could be achieved upon the adoption of a controlled periodical binding schedule. One older treatment of the subject⁸ suggests monthly shipments based on a staggered selection of weeklies, monthlies and quarterlies, plus a more equitable distribution of work to the binder. Such a procedure would work, however, only where the subscription list is large enough to guarantee a shipment of at least fifty volumes a month.⁴

All of these suggestions tend to ignore or minimize one fact, which in effect imposes a schedule of its own: publishers complete their volumes, in so many cases, either in June or in December, or both. Moreover, it has become the practice in academic institutions, where the reader demand on periodical literature is more or less predictable, to schedule binding shipments during vacation and intersession periods, which roughly correspond to the June-December axis of periodical publishing schedules. This creates formidable pressure on commercial binders, and there is little wonder that they find them-

Problems of Periodical and Serial Binding

selves deluged with work in midsummer and midwinter. If this becomes a serious concern to librarians because service is seriously curtailed, they may as a group attempt to remedy the situation somewhat by sending out a minimum of rebinding during peak periodical binding periods.

One thing is certain: from every point of view—service, convenience, and the flow of routines both in the library and in the bindery—some schedule involving at least two or three binding shipments a year is desirable.⁹ Moreover, no "sleeping" time in a centralized binding division must occur between the time a periodical leaves its service point in unbound form and the time it returns to service in bound form. If it were not for possible building arrangements and administrative exigencies, the principle might be formulated that independent binding divisions are important only for the services they perform in making records and making contact with bookbinders regarding shipping, complaints and financial affairs. The library service division which knows most about the habit and habitat of serials is best equipped to prescribe the details of binding; the same division should be able to make materials available to readers practically up to the moment before unbound issues start on their way to the bindery; the same division knows best how to do priority scheduling, i.e. indicating which titles are "rush," which are "regular," and which may be deferred in the case of a pile-up on the binder's assembly line. The division which is to control the bound volumes should receive its materials directly from the bindery so that the accessioning process may take place after these materials become available for use.

Librarians have for a long time attempted certain aspects of standardization with a view to minimizing time consuming processing and handling, as well as to reducing supervision and decision making on an item by item basis. More than a decade ago, there arose a movement to persuade magazine publishers to attain some uniformity in matters of make-up and the printing of essential bibliographical information. It was one writer's thought that: "Although libraries as subscribers receive only a small proportion of some large general circulation periodical publications, nevertheless, those copies which go to libraries are almost the only ones which are preserved. Therefore it is not unreasonable for librarians to cry for uniformity in their issues."¹⁰ The organization of the American Library Association Committee on Standards was an important step forward, but it has failed for the most part to enforce any degree of uniformity. The profession has compensated for this failure by trying to record behavioral con-

SIDNEY DITZION AND LEVERETT NORMAN

sistencies and deviations on periodical receipt record cards. The practice is laborious and often futile because publishers are too often inconsistent even in their deviations.

If the profession has failed in this organized pressure tactic, it has succeeded in another attempt at standardization, viz. in the matter of standards of bookbinding materials and workmanship. Expert opinion has produced a set of specifications to which any library can insist its bookbinder conform. In recent years, representatives of the Library Binding Institute¹¹ and of the binding industry¹² have urged that, inasmuch as each bookbinder binds so many identical titles for many library customers, that the librarians accept standard forms of lettering, wording, placement of lettering, abbreviations, and colors. Standard placement of special pagination may well come within this scope. The profession is told that it can by this means save much of the writing of pattern slips and instructions, much labor of making rub-offs and of sending samples. If binders' costs of lettering and otherwise producing to specification are thus reduced, such reductions can accrue to the accounts of library customers in the form of price reductions.

Now, if library binders resist standardization of type fonts, it is understandable because some of their investment in type will be rendered obsolete if and when they accept a standard type. But the cry of 'regimentation' from librarians is hard to understand. Why the fetish of precise uniformity of binding (normally in closed stacks) from volume one until death? If library professional bodies were to set up such standards for 1957, most libraries (not having special service requirements that render their serials unamenable to such standardization) would have bookstacks reading traditionally from volume one to 1956, and standard thereafter. Our librarians, readers, and pages would certainly survive this traumatic experience, and the reduction in binding costs would be sizeable. So it is promised. At very least, a cooperative arrangement could be set up for titles indexed in those bibliographical tools upon which libraries rely most.

It has been possible to discuss general principles and practices pertaining to the binding operation. The more difficult task, an impossible one it seems, is to prescribe organizational patterns for the performance of library binding procedures. What with the variety of library types and sizes, and a multitude of difficult or uncontrollable personnel problems and building situations, the natural course taken by textbook writers is all but to avoid binding problems. The typical text in school librarianship is satisfied with expounding the virtues of

Problems of Periodical and Serial Binding

bound periodical files. In the public library field, a binding division is written into tables of organization and little else is said. The literature of college and university librarianship is still far from furnishing positive answers to troublesome questions.

M. F. Tauber and associates¹⁸ point up the fact that binding has been tossed about and generally neglected in libraries, because everybody is much interested in the process but no one wants to take responsibility for it. It is recommended that a separate, or semi-autonomous, division be created in every library large enough to warrant one; that this division be headed by a staff member whose rank will command respect from others involved in the binding process. As a prescription for administrative clarity and proficiency, there can be little argument with this idea. The desirable functions of such divisions and their relationship to other library divisions have already been suggested. (See p. 255.)

Texts concerned with serial publications are only occasionally helpful with respect to binding problems. Gable¹⁹ practically ignores the binding problem. Grenfell²⁰ offers a conventional sketch of preparation processes and little more. Osborn,²¹ whose book on serial publications arrived as this article was being completed, analyzes the literature of serial binding rather completely. One fears, however, that, by virtue of its impartiality, this book may lead readers to believe that many an outworn notion is still feasible or desirable. In the matter of administrative organization, Osborn indicates that catalogers constitute the logical element of professional decision making in matters relating to serial binding. The rejection of this idea by the present writers is implied in earlier remarks anent the role of service divisions in binding affairs.

In view of the paucity of decisive literature in this field before the publication of Tauber and Osborn, and before the advent of the excellently conceived *Serial Slants*, one wonders how librarians have come to their high level of proficiency in serial binding. The answer probably lies in good library school groundwork,²² supervision by senior librarians on the job, and much painful learning by exploratory experience. The result has been good; it is with over-doing the process that we must be concerned.

SIDNEY DITZION AND LEVERETT NORMAN

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oooooooooooooooooooooooooooooooo Lamination and Other Methods of Restoration

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IN RECENT YEARS there has been an increasing interest in the problem of the preservation of the various types of library and archival material. The text of great quantities of such material is now being preserved by such methods as microfilm, micro-card, and photostat. In many cases the originals are being destroyed after they have been photographed. These methods of preservation, while satisfactory for certain types of material, are not suitable for all. In fact, photography is not actually a method of restoration. It is a method of conserving the text of a record but not the record itself. In addition, it is often not acceptable to either librarians or library patrons. Thus there remain many items which for one reason or another it seems desirable to preserve in their original form. Among these are valuable historical documents, literary papers, rare books, much used reference works and bibliographies, and many others.

While this paper is not primarily concerned with the causes of the increasing awareness of the problem of preservation and restoration, there seem to be three major reasons for it. First is the great increase in the use of the material. Second is the fact that much of it has been stored under adverse storage conditions, with little attention having been paid to such things as temperature and humidity control. As a result, deterioration has set in. Most important, however, has been the gradual lowering in the past 300 years of the quality of paper and other materials used for printing and writing. In quantity the largest group of this material is that written and printed since 1870 on wood pulp paper. But there are many earlier manuscripts and printed books in an equally poor state of repair. Both groups will be discussed in this paper, although it should be noted here that the processes described below are

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RAY O. HUMMEL, JR. AND W. J. BARROW

not applicable, because of their cost, to long runs of modern newspapers or magazines or to the run-of-the-mill book which can be readily replaced for a few dollars. Excluded will be documents on parchment, vellum, and papyrus. What the authors are primarily concerned with are the processes applicable to deteriorated manuscripts and printed books of some value. Finally, the authors do not recommend the use of any preservation or reinforcement procedures on material which is in good physical condition. The fact that a book or document is old does not mean that it is in need of restoration. If in good physical condition, it should normally be left alone.

Requirements in a Restoration Process. There are three basic requirements which any good restoration process should meet. They are legibility, permanency, and durability. Each will be described briefly.

1. Legibility—The readability of the restored item should not be reduced appreciably.

2. Permanency—In order to insure permanency, the impurities which caused deterioration of the item should be removed or made inert. The materials used to strengthen the sheet should be chemically pure and stable and should be resistant to the harmful action of certain agents present under normal storage condition and usage. In addition, the process used should not reduce the permanency of the item treated.

3. Durability—After restoration, items which will get much use should have both good resistance to tearing and folding endurance. Seldom used items, such as exhibit pieces, may have a lower requirement.

All of these qualities are needed and one of them should not be overemphasized to the extent that the others will suffer materially. Many restoration processes have proved to be unsatisfactory because their product did not meet all three of the requirements.

One further condition must often be met. This concerns the cost of the processes. Some are so expensive that they are impractical. An attempt will be made to give some idea of the relative costs of the various processes described.

The Silk Process. Developed during the latter part of the nineteenth century, the silk process was until quite recently the principal method of restoration. Basically, silking consists of pasting to each side of a sheet of paper a piece of semi-transparent silk cloth. With proper application the product will have relatively good visibility, be quite strong

Lamination and Other Methods of Restoration

and have a high resistance to tearing. Unfortunately, the silk used in the process has not proved to be stable. Eventually it becomes brittle, discolored, and loses its resistance to tearing. In addition to the instability of the silk, the starch paste used to apply it is often attacked by insects and molds. The impurities in the paper which caused the deterioration are also left in to continue their destructive work. Thus the silking process cannot be considered as a permanent one. Since the process is a slow one and requires highly skilled labor, it also is quite costly. While still used in some places, it is no longer considered to be a satisfactory method of permanent restoration.

The Tissue Process. This method is quite similar to the silking process, varying primarily in that tissue is used instead of silk. Usually thin sheets of tissue made of high grade fibers are pasted to each side of the deteriorated sheet. This produces a sheet of limited strength with a decided loss in legibility. If a thicker tissue is used to give additional strength, there is a very great loss in legibility. To overcome this defect, thicker paste is sometimes used with the thinner tissue. This produces a relatively stiff sheet, as the starch paste has a tendency to harden with time. It also is susceptible to attack by insects and microorganisms. While loss of visibility and relatively low physical strength are the primary reasons for the limited use of this process, it is also somewhat slow. It also makes no provision for eliminating the active compounds in the sheet that caused deterioration.

Mending. Strictly speaking, mending is not really a method of restoration. While it is desirable sometimes to mend tears in paper or to reinforce leaves at weak points with Japanese tissue and paste or with transparent tapes (not with ordinary Scotch tape), such reinforcement does not add to the strength of the page as a whole. This process is good for sheets of good quality paper which have been torn or otherwise damaged; it is of no value for paper which is already deteriorated. In some cases it seems desirable to fill out incomplete leaves by joining new paper to the original leaf and perhaps including the reproducing in facsimile of missing letters or words. Although this may be done with no intent to deceive, it is sometimes called the "gentle art of faking"; in higher bibliographical circles it is known as "sophistication."

Washing and Bleaching. Paste, glue and some stains may be removed from paper by washing it in clean water, after precautions have been taken to make sure that the ink will not run. This process, however, does not necessarily remove most of the harmful acids often found in paper and does not strengthen the sheet.

Bleaching has been used for many years to remove stains. While it is still practiced in some shops in America and in many abroad, it can be very injurious to paper if the chlorine or other bleaching agents are not removed thoroughly. It is also ruinous to many writing inks. It does not add to the strength of the page treated but may improve its appearance. The process is relatively slow, since each sheet must be handled separately.

Resizing. One of the more common processes used by persons attempting to strengthen deteriorated paper is that of resizing the sheet. All papers are sized with animal glue, gelatin, or starch, etc., during the process of manufacture, and it has been thought by many that the strength of deteriorated paper could be renewed by resizing. Usually this is done by dipping the sheet into a bath of 2 to 4 per cent animal glue or gelatin. It is thought that this will restore or improve the strength and coherence of the fibers of the paper. If the paper lacked sizing, or if it has been destroyed by microorganisms, a small amount of sizing would increase its physical strength. Some recent research has shown, however, that many deteriorated papers have not lost their sizing and that this has not been the cause of the weakening of most paper. Since too much size will stiffen a sheet and make it less flexible, there is no reason to think that resizing will add much strength to a deteriorated sheet. It is also true that modern wood pulp paper contains non-cellulose materials which have no fiber structure. Sizing will have little or no value in trying to bind together the components of such paper.

Sprays. In the past few years many have hoped that there would be invented or developed some sort of cheap method of spraying a transparent coating, perhaps a plastic film, over the surface of a sheet. This would form a protective coating and also give the sheet more physical strength. Such sprays exist and have been tried. The earlier ones were composed of cellulose nitrate, which is now considered to be unstable and injurious to paper. Other sprays have also been found wanting. They have given a protective coating to the surface of the paper but have added little to its physical strength. It has been shown that they sometimes increase the brittleness of the paper. Nor do they remove or neutralize whatever chemical impurities were in the sheet originally and these are left there to continue the process of deterioration. So far, then, we have no worth-while spray method of restoration.

Inlaying or Framing. Inlaying is a term used to describe a method of extending the margins of a single sheet of paper by framing it with a larger sheet. While these extended margins make it safer and easier

Lamination and Other Methods of Restoration

to handle the sheet, the process adds little strength to the leaf itself. It has often been used for the repair of documents for display purposes and for extra illustrating books when it is desirable to make the added pictures the same size as that of the book they are being inserted in. In fact, since the rate of expansion and contraction due to the change in temperature and humidity is seldom the same in two different papers, inlaying may result in the formation of undesirable cockles and a premature breakdown of the original sheet. The process is slow and rather tedious and since it gives so little added strength is not a satisfactory method of restoration.

Lamination with only Cellulose Acetate Film. Lamination may be described briefly as the process by which a sheet of thermoplastic cellulose acetate film is applied to each side of a sheet of paper by means of heat and pressure. It must be applied by the use of special precision built equipment with controlled heat and pressure. This process was first used as a means of rehabilitating deteriorated material in the middle 1930's. The film has a high rating in permanency. When this process was first introduced into the restoration field, it was thought by some to be the final answer to their problem. Time has shown, however, that the film has limited tear resistance and many documents which were treated have become damaged because of this weakness. In addition the process does not eliminate those harmful compounds frequently found in paper which cause deterioration within the fibers of the paper.

Lamination with Films Containing an Adhesive. Cellulose acetate films containing thermoplastic and pressure sensitive adhesives were developed in the late 1930's. They can be applied to paper with comparatively inexpensive equipment. These films are satisfactory for use on material of temporary value, but after a few years the film usually peels off, leaving the adhesive embedded in the pores of the paper. In some cases the adhesive has discolored the paper. This film also has little tear resistance. While this process serves a useful purpose when used on menu cards, inexpensive book covers, etc., it should never be used on books or manuscripts of permanent value.

Scotch tape is a similar type of film whose use has caused much damage to a number of valuable items. It should never be used for repair or preservation. In recent years there has come on the market a new type of Scotch tape which seems to have better possibilities since it apparently does not turn yellow or become brittle with age. While it may be satisfactory for use in mending torn pages of tem-

RAY O. HUMMEL, JR. AND W. J. BARROW

porary value, it too should not be used for the repair of papers to be kept permanently.

Deacidification and Lamination with Cellulose Acetate Film and Tissue. Some persons interested in the restoration of deteriorated material reasoned that if lamination with cellulose acetate film was combined with other procedures which would overcome the deficiencies of the use of the film alone, the final product of restoration would have properties which were superior to those of any other single method then in use. The two qualities which needed to be added were greater strength in the restored sheet and some treatment of the paper so that deterioration would not continue after the sheet had been restored. The rest of this part of this paper will be devoted to a description of such a process. It is generally known as the Barrow Method of Restoration since the procedures followed were developed by W. J. Barrow. The equipment used (i.e. the machine used to laminate the sheet being restored) was also invented and developed by Barrow. These procedures and equipment are used in his shop and in some thirteen other shops (chiefly in libraries and archival agencies), which are now using this method of restoration.

As was noted above, the application of cellulose acetate film to a sheet of paper did not increase its resistance to tearing. In fact, it has a tendency to decrease the tear resistance of some papers. In order to overcome this fault, it was necessary to find some other material with good tear resistance which could be incorporated in the laminae to give it added strength. For this purpose a high quality tissue was chosen as it not only increased the tear resistance but also improved the folding endurance. The way the tissue and film are applied to the sheet may be likened to a sandwich:

Tissue
Film
Paper to be restored
Film
Tissue

The film softens under heat and is then pressed into the pores of the paper and tissue to form a homogeneous unit.

The second need mentioned above was for some treatment of the deteriorated paper so that deterioration would not continue after the paper had been restored. Tests on deteriorated papers showed that nearly all of them contained acidic compounds. They also showed that in most cases the degree of brittleness was in direct proportion to

Lamination and Other Methods of Restoration

the amount of acid present in the paper. Thus it seemed likely that if this acid condition could be eliminated deterioration might be stopped. The causes of this condition were acid inks, absorption of sulphur dioxide from the air, alum in the sizing and the bleaching methods used in the manufacture of paper. Experimentation has indicated that calcium hydroxide and calcium bicarbonate are the best chemicals to use as neutralizing agents. Not only do they deacidify the paper but they also precipitate small amounts of calcium carbonate in the paper fibers. This will neutralize acids absorbed by the paper in the future and also have a stabilizing effect on the fibers. The process, in brief, consists of soaking the sheet first in a solution of calcium hydroxide and then in a solution of calcium bicarbonate. The sheet is then air dried and laminated with cellulose acetate film and tissue.

This process has several good features. It gives a product with good legibility, no discoloration and good resistance to tearing and folding. It can be delaminated if necessary. The materials used (tissue and film) have been shown by laboratory test to have a good degree of permanence and should last for many years. The film is relatively resistant to the passage of gases and to insects and microorganisms. The acidity which is neutralized is not apt to become active again. The restored sheets are not difficult to use or store and can, with the addition of a binding margin of tissue or good paper, be bound up in volumes. While the sheets are slightly thicker than they were originally, they are not as thick as photostats and will lie perfectly flat. Although the film has some elasticity, it will not stand much creasing or sharp bending when in a laminae. An examination of several hundred volumes restored by this process disclosed that books which had been used thousands of times were still in good condition. Some recent tests made on sheets which were laminated in 1939 showed that there had been no physical breakdown of the film when compared with film of recent manufacture. This was likewise true of some unlaminated film made in 1940. Unstable paper would have shown considerable deterioration in this 15-year period.

This process, while several times faster than the silk process, is still relatively slow. Yet its cost is less per sheet than photostating, and the product is easier to use, more legible, and longer lasting. While not cheap enough to be used for the restoration of the great mass of modern newspapers, magazines and books printed on low grade wood pulp paper, it is economical enough to use on valuable manuscript

RAY O. HUMMEL, JR. AND W. J. BARROW

and archival material, on rare books, much used reference works and bibliographies.

Print Transfer. Print transfer is the name which has been given to a process of restoration which is in an experimental stage and about which little has been written. It is now being studied by Barrow. It has been used by him on 100 volumes, primarily on material belonging to the Virginia State Library and to the Library of Congress. Since it is being used and has possibilities of greater use, it seems appropriate to describe it briefly.

About five years ago efforts were begun to determine whether it was possible to lift and transfer the print from a deteriorated sheet to a sheet of rag paper with a high degree of permanency. The process consists of heating cellulose acetate film and then pressing it hard enough against the deteriorated sheet to cause the particles of ink to adhere to the film. This film is then stripped from the sheet and laminated to a new sheet of rag paper.

Because the oxidation and polymerization of the oils of different inks vary, no two books present the same problem. Some inks transfer easily, others are very hard to soften. In some cases it has been found that one section of a book will transfer more easily than another. This is the chief unsolved problem in the process. Some progress has been made by boiling the sheets in an alkaline solution to convert the oils to a soap. Of course, this adds to the cost of the process.

A variation in the process is to soften the print and press it on to another sheet of paper. This sheet is then treated and the print transferred to permanent rag paper. The materials used in this variation are cheaper than those used with the acetate film method. More research is needed on this process.

The cost of this process is about the same as that of lamination with cellulose acetate film and tissue; it is less than photostating. It has the advantage of giving a sheet which is stronger, less bulky and will wear better than will the product of any of the other methods of restoration. In fact, these sheets when bound will result in a volume which is easy to use and is considerably stronger than practically any new book produced today. It is possible that a machine could be constructed which would remove the ink from the deteriorated sheet and then put it on a sheet of new rag paper. Such a machine would probably be quite costly and it is possible that there is not enough demand to justify it. This process has been used on a number of volumes in the Virginia State Library. These have been primarily much-used reference works printed in the last 75 years, but the number also in-

Lamination and Other Methods of Restoration

cludes several volumes of a periodical printed in the period, 1900-1910. Some of the paper was in very poor physical condition; the rest was in better condition but was chosen because it seemed sensible to preserve it while all the text was still intact. An impartial examination of these volumes shows that they have stood up well under rather hard usage. Their legibility is generally good, but there is some inconsistency in the transfer of the ink. Some books appear to be sharper and blacker than they were originally while others are lighter and a little more fuzzy. The later was true particularly of some of the volumes of the periodical restored where the ink apparently varied considerably from issue to issue. Similar conclusions have been drawn by A. W. Kremer, who has examined the volumes done for the Library of Congress.

In summary, no one working in the field of restoration believes that our present processes are the best that can be devised. As more facts are discovered about the composition of deteriorated paper and as new developments are made in plastic films, there will be possibilities of improvement. Both subjects are being worked on now.

There are a number of new thermoplastic films on the market now which have some characteristics which seem to be superior to the cellulose acetate film now used. One is myla, which has several desirable properties but which softens at a temperature too high for use in the lamination of documents. Another is polyethylene. It can be easily laminated to paper but is difficult to delaminate. It may prove to be useful for certain types of material which it will never be necessary or desirable to delaminate. It should not be used, of course, on material of historical value.

Another possibility is that a process will be developed which will strengthen the deteriorated fibers in paper. At the present time it is possible to de-ink low grade papers and to reprocess the fibers into a stronger paper. Naturally, the de-inking feature must be eliminated before this can be considered for library materials. There is also a possibility of the relinkage of the cellulose molecules in deteriorated paper and the consequent rehabilitation of the original structure of the fibers. Such a process appears to be in the somewhat distant future.

This summary will not attempt to review all the processes described. It will point out the major points which should be kept in mind by every person responsible for the restoration or preservation of valuable material:

1. All materials used in restoration, such as papers, textiles, fibers, films, adhesives, etc., should be known to conform to standards which

RAY O. HUMMEL, JR. AND W. J. BARROW

have been determined by laboratory experiment to insure permanency.

2. The materials used should assure as great a degree of visibility, tear resistance, flexibility, etc., as is necessary in view of the probable use of the restored item.

3. The procedures followed, such as the application of heat and pressure, should not reduce permanency.

4. The process used should not lock into the treated sheet those elements, such as acid, which are the causes of its deterioration.

5. After restoration, the item should be kept in suitable storage conditions—away from contaminated papers and atmosphere, excessive heat, too high or too low humidity, etc.—so that it retains the durability given it by the restoration process.

Finally, while there has been good progress in the development of sound restoration methods in the past 20 years, much more remains to be done. Libraries and archival agencies have spent practically none of their own money on research in this field. In view of the importance of the problem and the magnitude of the material in need of restoration, it would appear that librarians and archivists might well devote more of their time and give greater support to the development of better procedures of restoration.

BIBLIOGRAPHICAL NOTE

The material in this paper has been taken primarily from two works by Barrow. One is "An Evaluation of Document Restoration Processes" in *American Documentation*, 4:50-54, Spring (April) 1953. The second is *Manuscripts and Documents; Their Deterioration and Restoration*, recently published in a preliminary edition by the University of Virginia Press.

In addition, the following contain information on some of the topics discussed and were also used:

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Policies and Practices in Discarding

HOWARD F. McGAW

K. D. METCALF says that his library is too large for Harvard's current needs,¹ and J. T. Babb reports that "for the first time in the history of the Yale Library we carry in our accessions statistics a figure reducing the over-all growth of the Library."² Since Yale has well over four million volumes and Harvard approximately six million, most of us, with libraries considerably smaller, might conclude that we have plenty of time before we are faced with the problem of maximum size. But eventually the day will come.

Some twenty years ago L. S. Shores, in commenting on the average undergraduate college library, as contrasted with such collections as are represented by Harvard and Yale, said that it:

. . . should be highly selective and definitely limited in size and scope. Whereas the research library's book selection problem may be solely one of acquisition, the educational library will be equally concerned with elimination. As protection against the nuisance of research ambitions, the college collection should have a maximum, say 35,000 volumes, imposed upon it, beyond which its collection may *never* expand. Each year the college may undertake to purchase 500 new titles, on condition it weed out 500 old works from its collection for discard or for presentation to some ambitious research university endeavoring each year to report a bigger and better library. In this way only the number will remain static; the educational library's contents will always include the basic books, plus an ever-changing collection of ephemeral material. The result will be a highly serviceable educational library with abundant material to furnish a true culture to young people who want it.³

The fact that very few such institutions have established such collections—the 100,000-volume Lamont Library, for Harvard's undergraduate students, is an outstanding exception—is immaterial here. The significance of Shores' conception lies in its challenge, if not to the commonly accepted, at least to the commonly practiced pattern

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HOWARD F. MC GAW

of college library administration. Though the restrictions of this paper will not permit a treatment of Shores' idea in its broader aspects, it is believed that no more effective introduction to the subject of discarding could have been chosen. This is especially true when we consider that university and other research libraries represent but a small fraction of the total number of libraries, whereas the policy advocated by Shores—that of a live, working collection—is subscribed to, theoretically, at any rate, by tens of thousands of small and medium-sized libraries: school, college, and public.

One of the most complete studies that has been made of college library use was conducted by H. L. Johnson, who studied the circulation figures of five mid-western college libraries where the combined collections totaled 345,000 volumes. In the academic year being surveyed, he found that the students from all five colleges used less than seven per cent (22,537) of the total number of books available. Harvie Branscomb, who reports on the Johnson study, does not recommend that the remaining 73-odd per cent of the volumes be thrown out, but when he says that "a collection of 25,000 volumes *correctly selected* would have served the undergraduate needs for the year of all five colleges, reference materials excepted, and 10,000 volumes would have taken care of any one of the colleges," he indicates very clearly that a thorough weeding was long past due.⁴

College President Carter Davidson (formerly of Knox College, now of Union), after considering what could be done to avoid the cost of a new library building every twenty years, gives a forthright recipe: "We can cull, we can weed, we can keep the size of our active book collection at some reasonable figure, say fifty thousand volumes for a student body of five hundred, and we can store those of the others we should keep. Burn, bury, sell, or give away the rest."⁵ What has been said of college libraries applies, of course, with at least equal force to school libraries, and with even more force to most public libraries.

In order to avoid confusion, in the minds of inexperienced librarians, between the terms "discarding" and "weeding" perhaps it would be well to state that when a book is discarded, it is weeded, but that when it is weeded, it is not necessarily discarded. To keep library collections up to date hundreds of thousands of volumes are weeded out every year, but most of these volumes are simply shifted from active shelves to other locations where borrowers will be less conscious of them. "Weeding" has been defined as "the practice of discarding or transferring to storage superfluous copies, rarely used books, and material no longer of use." A discarded volume is one that has been

Policies and Practices in Discarding

"officially withdrawn from a library collection because it is unfit for further use or is no longer needed." The withdrawal process involves "removing from library records all entries for a book no longer in the library."⁶

While this paper is concerned chiefly with "discarding," the emphasis will be on the steps taken by a library staff, through the elimination of unsuitable material, to improve the excellence, from whatever point of view, of its main collection; and this process will naturally involve weeding, in the broader sense. In general, the author has consulted for this paper the literature of the past decade or so, but a monograph which he has in preparation will attempt to cover all contributions on the subject, including a considerable number that have had to be slighted here because of space limitations.

For every librarian who talks about the desirability of weeding, there must be ninety-nine who never get down to business. The reasons, rationalizations, and excuses are numerous. Some of these will be mentioned here, along with arguments from the other side.

In the first place, the book has been regarded as something of a sacred object. For generations, especially in the centuries closer to Gutenberg, no one except a vandal would think of deliberately destroying a book. Such awe has carried over into the feelings of many librarians even today; but this is passing. The train-loads of printed matter pouring daily from the presses give us a different perspective from what we have had in the past. If the volume has lost its "spark" or its utility, it is just so much paper, ink, cardboard, and cloth, ready to be junked.

Another argument against discarding is that the volume under consideration may be needed by somebody at some time in the future. This one is unanswerable. The point is, however, that only our large research institutions can afford to shelve this volume until the distant day when our somebody shows up, if he ever does. The only way the non-research library can keep within its financial and space budgets is to provide what is needed, not for everybody, but for its own special clientele, and not for all time, but for today. What it cannot furnish on this basis can be made readily available from one of the larger libraries through interlibrary loan or through some photographic or other reproductive process.

Putting it off, usually to an indefinite date, is doubtless the most frequent reason why discarding does not get attended to. There is never enough staff, never enough budget, never enough time—and of course there never will be. Fortunately, however, crowded shelves,

HOWARD F. MC GAW

with no new building in sight, force the necessary action. Then, too often there is an orgy of discarding—unsystematic, wasteful, fatiguing: such an ordeal that the staff resolves "Never again!" The trouble is that too many librarians identify this kind of experience with discarding; hence the aversion. Those with experience recommend continuous discarding, with systematic completion of the process once every year or so. The job is never finished, no more than is the program of selection, unless we want our collection to stagnate. In those libraries which perform the task according to a day-by-day plan, as part of the regular routine, the traditional unfavorable attitudes toward discarding have been laid to rest.

Not the least popular feature of the University of Houston's weeding program is that it has been spread over a generous period of time. Since at this institution the main library building is of recent construction, and since the University is young—meaning that the book collection is still relatively small and has only a minor fraction of dead-wood—the need for weeding is not a pressing one. But with the idea that the earlier the problem was faced, the less difficult and costly its solution would be, we set up a systematic schedule that has been unanimously approved by the faculty library committee. Under this plan each of the instructional departments having a book budget is assigned a certain month in which its representative confers with the library staff regarding the weeding of those parts of the collection of special concern to the particular department. This arrangement provides for complete rotation of the departments, and therefore full coverage of the library, over periods of about five years each. The areas of the collection not directly related to teaching departments are weeded by our own staff members, with the assistance of interested faculty members, specialists within the city, subject bibliographies, and other tools.

In school and college libraries, the obstacle to a sound discarding program is not infrequently the unwillingness on the part of the staff members to precipitate "scenes." For they know that sooner or later, out of the hundreds of books discarded, one or more will represent mistakes, and at least one mistake will invariably get to the attention of Instructor "X," who has never been very friendly toward the library anyway.

We had better resign ourselves to the facts: there is no discarding program on record without its mistakes, and some of these mistakes will cause trouble. We simply have to "exercise the best judgment

Policies and Practices in Discarding

we can command, humbly, not arrogantly, and risk the consequences."⁷

In the past, the most convincing argument against discarding has been the cost involved. Not the cost of the time spent by the librarian in deciding, or helping to decide, which books should be weeded out, but the cost of canceling the volume from the library's shelf-list and public catalog, etc. But librarians who have listened to this argument have not taken some things into account. The reasoning goes: "It costs as much to discard a book as it does to buy shelf space for a volume the same size. So why bother? Forget about discarding and buy more stacks." Two important points are overlooked: (1) if the book under consideration is of the discardable type, it is a liability rather than an asset to the library, and a negative value can be placed on this, public-relations wise; (2) every time the book is dusted, every time it is shelf-read, every time it is inventoried, a slight (but significant, in the aggregate, and over a period of years) cost is involved.

A careful check of shelving costs today, and especially of the cost of a new building to house the shelving, may lead us to re-examine the basic argument. As to the "un-cataloging" costs, these can certainly be kept within reasonable bounds. No matter how difficult, and therefore expensive, it may be to incorporate a particular book into the collection, the complete withdrawal process, from the moment the discarding decision has been made, can be performed by a bright teen-ager.

D. A. Woods, in a series of time studies conducted in 1950, found that books in the Milwaukee State Teachers College Library could be withdrawn for about ten cents per volume. Estimating the cost of stack construction at a dollar per volume, he figured a saving of ninety cents for every book discarded.⁸

Reference has already been made to Harvard's Lamont Library, which is limited to 100,000 volumes. In 1949 Donald Coney, referring to Harvard's 5,000 undergraduates and the 1,100 seats and (at that time) 80,000 volumes of their new library, estimated that to construct "a Lamont Library on the Berkeley, or Minnesota, or Illinois, or Michigan, or Texas, or Wisconsin campus," to accommodate "three, four, or five times" as many undergraduate readers as Harvard has to provide for, would cost "from four to six and one-half million dollars."⁹ This is the kind of money that we have to talk about, at least for a number of institutions, when library building costs are being considered; and these figures, remember, would apply to library collections from which

HOWARD F. MC GAW

the material of little use to undergraduates has already been eliminated.

At the Southern Illinois University Library an ambitious, seemingly highly successful weeding program was launched six years ago with two graduate students performing most of the preliminary work. The project is still underway, costs are apparently justified by the results, and faculty reaction has been excellent. "In all cases it has been favorable, and in some cases, enthusiastic."¹⁰

Very few libraries have a written policy in respect to discarding. Doubtless most of them assume, correctly, that when the decision is made to withdraw a volume, the basis for the decision is according to "the same standards that govern the choice of new material."¹¹ There appears to be general agreement on this point: that book discarding and book acquisition are part of the same process, and that a given library's book collecting policy determines that library's discarding policy, if it is to have one at all.

Large research libraries such as those at Harvard and Yale, mentioned earlier, the Library of Congress, the New York Public Library, and many others, are naturally concerned about space problems, but there is little discarding that they can do, relatively speaking, outside of duplicates and some of the superseded editions, without compromising their basic policy of collecting and preserving. A few of our large municipal libraries, such as those in "Detroit, Cleveland or Cincinnati where the public library has the largest collection of books in the city and has established for itself something of a place as an inclusive collection of books," must also follow, to a certain extent, the same policy that applies to other research libraries.¹²

L. Q. Mumford, when he was assistant director of the Cleveland Public Library, reported that his library had "a general statement as a guide for weeding the main library collections," but he found that "the policy followed in any particular division depends upon the subject fields covered, upon demand and use of material, and upon the subjective judgment of the division chief and her staff."¹³ After making a survey of some of the other larger public libraries in Ohio, Mumford found that their weeding practices varied so much that he could not offer detailed suggestions that would be applicable to any given library.¹⁴

A discarding policy workable in a regional library (or, by adaptation, in a large municipal or county library system) was drawn up more than a decade ago by J. S. Richards, librarian of the Seattle Public Library, with the cooperation of R. T. Esterquest, then director of

Policies and Practices in Discarding

the Pacific Northwest Bibliographic Center. According to this policy, loyalty to the region, as implemented by a practical cooperative scheme, would prevent a Northwest library from discarding the last copy of any volume that might be useful to any reader in that part of the country.¹³

Iowa State College is one of the few academic institutions where the library, convinced that "systematic and continuous weeding of the book collections is an essential part of a well-rounded and progressive acquisitions program," has issued a statement covering its policy in this connection. The statement covers "Types of Materials to Be Discarded," "Identification of Materials to Be Discarded," and "Disposal of Discarded Publications." It is characteristic of the research use to which this library is put that the policy provides for the retention of "at least one copy of each edition of every book in the collections that is directly related to the subject fields emphasized by the College."¹⁴

Whether or not a library has a policy on discarding—or almost regardless of the policy, if it has one—the process of eliminating many of the unsuitable volumes from the rest of the collection must remain in the final analysis, an art—an art requiring the same qualifications that are required in competent book selecting. And no matter what kind of formula is used, the decision to discard must be made, at last, on the merits of the individual volume. Except in a research library, where even the most trivial pamphlet may be needed for documentation, the librarian should feel justified in discarding any book for which he anticipates, in the near future, no further demand, especially if he has evaluated this demand in terms of the "volume, value, and variety" suggested by Helen E. Haines.¹⁵

A difficult question that often arises in the discarding program is: When is a book out of date? For much material the answer is obvious, of course, but there is no rule of thumb. Usually, especially when decisions are being made regarding the removal of the less-used material to storage, arbitrary limits are assigned. The time factor will naturally depend on the type of material and the type of library. One would suppose that if certain books in the collection had not circulated for ten years, it would be safe to remove such inactive volumes from the rest of the collection. But this would have been a mistake at Tulane University (where a change in the book-pocket system made it possible to check into this situation), since their statistics showed that demand for the old material amounted on certain days to as much as 13.6 per cent of the general circulation.¹⁶ To have permanently discarded such material—a step that might have been quite in order for most non-

HOWARD F. MC GAW

research libraries—would have been for Tulane, of course, a wasteful blunder.

Many authorities mention "five years" as perhaps a suitable length of time beyond which inactive material may safely be relegated to the less public areas of the stacks, or even to the discard pile. The author once had occasion to use this time limit in changing an undergraduate college library collection into three different divisions. All books that had not been used during the previous five years were pulled out of the collection and shelved, according to the original classification system, in some newly installed basement stacks. Their book cards, each indicating by a stamp the volume's changed status, were kept at the circulation desk where students were advised to inquire in case they sought one of these titles among those of the live collection. A large number of the weeded books should have been sold, exchanged, or otherwise discarded, but the administration forbade any procedure that would decrease our official holdings. Too few college presidents, college and public library boards of trustees, and high school principals and superintendents have exposed themselves to such statements as the following: "It is a sign of a healthy condition of the book collection and a wise administration of the book fund when the library's annual report reveals a fair correspondence between the number of new books regularly purchased and the number of books regularly discarded."¹⁷ Nevertheless, the compromise effected within the building itself certainly provided our students with quicker access to the books they wanted.

As new books were acquired, all except a few of a very specialized nature were placed in a conspicuous part of the main reading room, where they were classified under prominent shelf labels, so that they could scarcely be overlooked by even the most indifferent user of the library. The book cards for these titles were likewise kept in a file at the circulation desk, from which they would be pulled for charging purposes. A constant turnover in the new-books section was provided by adding new titles as received and by retiring those that had been on display for a year. In the same way the five-year collection was being continuously refreshed by the addition of titles retired from the new-books section, and periodically weeded by the relegation of unused books to the basement.

Although the system just referred to is not exactly what Shores had in mind, it does give prominence to those titles which have the freshest point of view, and which, therefore, are most likely to appeal to undergraduate students.

Policies and Practices in Discarding

The five-year period used by some libraries as their arbitrary measure of obsolescence may be too long a period for others. F. K. W. Drury suggests that books which have not circulated for two years be removed from the active collection, and that "after another period"—presumably of no longer duration than the first—they be withdrawn altogether. (He reminds us, however, that lack of adequate publicity may have been responsible for the fact that these volumes were not used.¹¹ Publicity for the less moribund members of the collection must not be overlooked either. After a vigorous "retirement" program had been conducted in one library, the patrons were most happily surprised at what they found. "I didn't know you had this. When did you get all these books!" But the wonderment was not aroused by new acquisitions. The titles "had been on the shelves all the time but had been lost among the weeds."¹²)

C. F. Gosnell has worked out special formulas, using logarithmic curves, as guides for determining the obsolescence of books in various subject fields, in the same manner that actuaries in insurance offices compute mortality tables. His figures will therefore apply to whole groups of books, but not necessarily to particular titles. He estimates that at least half the book collections in many college libraries consist of titles over thirty years old, and that less than ten per cent of these titles are being used.¹³

That the periodic discarding of unused, out-of-date material from all non-research libraries will improve the efficiency and vitality of the collection, there can be no doubt among those who have had experience with weeding programs. One case is reported where the failure of a certain public library to discard obsolescent and other unfit material from its collection is cited as the probable cause of its closing down.¹⁴ Most adults as well as children have an ingrained respect for the printed word, especially the printed word found in a library; and we do them an injustice, and give ourselves poor publicity, when we make it possible for them to take out material that includes obsolete information. Even college students, it seems, have to be protected against themselves. Woods reports that many of them "show no appreciation for imprint dates but continue to use Hutchinson's *The Conquest of Consumption*, 1910; Tolman's *Safety*, 1913; Notter's *Practical Domestic Hygiene*, 1905; Spargo's *Common Sense of the Milk Question*, 1908. They read the third edition of some titles when the sixth edition is available. This is deplorable and often serious because of the misinformation involved."¹⁵

No matter how popular, and/or how well-recommended, a book has

HOWARD F. MC GAW

been in the past, its qualifications for discarding become stronger every passing year. A glance at the list of top best sellers of the last fifty years will readily reveal to any librarian born this side of 1900 the unfamiliarity of many of the titles, despite the fact that in their day each of these books enjoyed sales of half a million or more.²¹

"Dead, but not yet taken away"²² is an apt description of thousands of volumes that "rest in peace" on our library shelves. Obviously a healthy collection is dependent on our willingness to hold frequent memorial services. And the librarian need remind himself that many members of his book family die young.

Further attention to obsolescence cannot be given here, but since it applies to all classes of books, with the exception of historical source material, the classics in literature and art, and perhaps a very few others, it is clear that this is the principal concern of book weeder.

Although no two libraries will have exactly the same kind of material, or collecting policy, or clientele, and therefore no two libraries, if they discard at all, will be discarding the same things, the items listed below will be suggestive. Whether the particular library removes the material to some kind of storage, or whether it withdraws it, depends on the use to which that library is put.

Duplicates. Even the research library discards these. Here is perhaps the easiest group of books to begin with. In school and college libraries the fact that books on reserve (where the greatest number of duplicates are likely to be found) are not given full processing, makes the discarding of them a relatively simple process.

Unsolicited and unwanted gifts. The ones that come without strings are no problem, but the others can be "dynamite, such as gifts of the principal, board members, etc. Here go slowly, and try to find some printed authority to back up your own judgment of inclusion or omission."²³ Of course, the advice of not a few librarians—those who have had bitter experience—that such discarding be postponed until the donors have moved out of town, retired, or passed on, may not be without its value.

Obsolete books. This has already been dealt with in a general way. Special attention should be given to science, medicine and health, technology, geography, transportation, and travel. Watch for obsolete style and theme as well as for obsolete subject. Weeding out the material on World War II, "the most reported event in history," is, by itself, an immense undertaking, but the path has been cleared by a carefully prepared article on this subject.²⁴

Superseded editions. Obsolescence applies to this category too, but

Policies and Practices in Discarding

it is a large class in itself, especially since textbooks are included here.

Books that are infected, dirty, shabby, worn out, too juvenile, too advanced. "But it must seem strange to a student to be asked to treat books carefully, and then be given some battered wreck that has earned a well-deserved rest!"²⁵

Books with small print, brittle paper, or missing pages. Do not strain your patrons' eyes, or give them a guilt complex if a page breaks in the middle, or assume that they are psychic.

Unused, unneeded volumes of sets. "Do not make a fetish of 'full sets' that possess no specific and evident usefulness."²⁶

Periodicals with no indexes. "I find it practical to discard magazines according to the dates of the volumes of the *Readers' Guide*; because it seems unfair to dangle bait before a student if we cannot produce the material. The cumulative volume covers a span of three years, and that, plus the current issues gives you a four-year coverage."²⁸

Space limitations prevent an extension of this list. The chances are that if a library staff has commenced to discard, it has already found helpful advice or picked up useful experience regarding types of potentially discardable material not discussed above; and if its weeding program is not yet launched, it will have plenty to do for a few years, anyway. Pamphlets, documents, maps, music, etc., have not been covered in this paper, but the same principles will apply.

Yale is discarding "incomplete volumes, imperfect volumes, indices without texts, pamphlet collections that are duplicate, cheap reprints of well-known books, some translations into strange languages, books written only for children, and . . . some volumes on practical agriculture which are much better at the Experiment Station."²⁷ (Under Yale's "Selective Retirement" program, incidentally, it has transferred some 50,000 volumes of little-used material to a location in the basement of the main building. "The only difference to the reader will be a wait of twenty-four hours instead of four minutes." An example of the type of material stored here is the shorthand collection, which "although fully cataloged, showed no sign of circulation for twenty years."²⁷)

Wilson and Tauber list thirty-eight different categories of "materials which librarians might find it expedient to store."²⁸ Non-research libraries may find the list useful in suggesting kinds of materials for possible discard. *The Teacher-Librarian's Handbook* describes ten classes of discardable material, with helpful comments.²⁹

Enough has been said or implied about when to discard—do it all the time; make it a standard routine—and who should discard—these

HOWARD F. MC GAW

should be the same people responsible for book selection and for the effective use of the books once they are selected. How to dispose of discarded books has not even been touched on, but this is really another problem. We have been concerned here with separating from the live books those that are dead or dying. Storage areas for weeded material have been briefly discussed, but the problem of selling, exchanging, giving away, junking, or burning the withdrawn items is, to repeat, a separate subject—related, to be sure, but having a considerable literature of its own.

The routine of canceling the library records on withdrawn books is covered, in more or less detail, by Woods,⁸ Akers,³⁰ Beall,³¹ Minster,³² and Reyner,³³ among others. The description of some of the "short cuts" mentioned by two or three of these writers will probably repay the librarian for the time spent in consulting the pages referred to.

In conclusion, C. B. Roden's notion of the public library of the future corresponds to Shores' idea of the college library. In both cases the collections would "consist of a nucleus or core of the books of permanent value, rigidly and competently selected and kept in condition by equally competent discarding and the full recognition of . . . 'book obsolescence,' a malady with which most libraries are afflicted and which few of us have dared to attack."³⁴

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HOWARD F. MC GAW

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Stack Problems and Care

RUSSELL J. SCHUNK

BEFORE DEALING with specific problems encountered in the administration of book stacks, it might be well to remind the reader that this subject has a close resemblance to the weather as a topic for discussion.

Authorities concede that the first American bookstack came into being in 1877 when Gore Hall was built for Harvard University.¹ Its great book storage room was packed with parallel ranges of shelving side by side and in five levels with every cubic foot from wall to wall and from basement floor to roof used either for book storage or for access to the collection. It was used exclusively for stack purposes. Yet it was not many years later that President C. W. Eliot of Harvard addressed the librarians at their 1902 conference at Boston and beseeched them to establish clear-cut policies as to the storage and convenient use of the "overwhelming masses of books which are pouring forth at all the large centres of book making in the world, masses which each decade bids fair to double."² This marks the start of the period when the housing of books and materials became an acute problem. Since then more papers have been written by librarians and more claims have been made by the salesmen for book-stack equipment and less solid progress has taken place than one can imagine. This statement is made after careful thought, after detailed research, after the inspection of a number of existing stack systems and after the examination of several stack plans in the blue print stage.

There probably is a very good reason for this situation or at least a very human alibi for this lack of progress. Book stacks and their administration are hardly glamorous. Since they are kept out of sight in the average library, everything about them has "been skimped."³ In too many libraries they have received less financial sustenance than the proverbial church mouse. Before the reader who has a workable stack system becomes too exercised by these pronouncements, let this author say that he, too, has seen fine stacks in public libraries, college

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RUSSELL J. SCHUNK

and university libraries, and special libraries. Nevertheless, the average library administrator should be a little more aggressive when doing battle for funds for new buildings and equipment so that a basic part of his equipment—the book stack—does not get the budgetary axe. It should be realized that a well-equipped and wisely-managed stack system is a real necessity if efficient library service is to be given.

The sharp teeth of economy sometimes cause such excruciating pain that the librarian forgets what the real objectives of a stack system are. They have been well expressed as follows: "close at hand, easily accessible throughout, conveniently adapted to the accommodation of its contents and for their economical rearrangement, reclassification and reception of accessories; clean and free from dust, well ventilated with a uniform and constant temperature of about 68°, well and even brilliantly lighted whenever and wherever required in the stack at all times day or night, conveniently provided with stairs and elevators and, for the larger stacks at least, suitable mechanical apparatus for quick transmission of books to and fro between shelving and the delivery point or points."⁴ You will note that B. R. Green wrote this almost fifty years ago—yet his summary holds good today.

Seymour Robb has stated: "The stacks, in short, are the one phase of library administration common to all types of libraries. It makes no difference whether they constitute the bulk of a collection of 5,000 or 500,000 volumes, there are certain details which must be recognized to insure efficient administration. . . . If the stack arrangement is not carefully planned and even more carefully administered, much of the good work that should be done is nullified."⁵

Now let's summarize stack details. The main building in a library system houses not only active book collections but many less active ones. A feature of the library building in the United States is its central stack or tier of stacks, the prime function of which is the economical, efficient storage of books.

Built of steel, each level of stacks is from 7 feet to 7 feet 6 inches high from floor to ceiling. Floors or decks, as they are commonly called, may be constructed of steel, concrete, glass or marble. Each shelf is usually 3 feet in length, movable, and interchangeable. The vertical division between two shelf supports is usually made up of seven adjustable shelves called a section. A range is a series of sections built end to end. It may be single- or double-faced. Ranges are from 9 to 36 feet in length. Spacing between ranges depends upon whether stacks are open to the public or not. Public ranges have aisles 6 feet wide from center to center. Closed ranges are 4 feet 8 inches from center

Stack Problems and Care

to center with 3 feet of clear aisle. It should be remembered that all of these dimensions are not arbitrary. They have been developed in terms of average human stature and will hold good until *Homo sapiens* begins to develop differently.

A lineal foot of shelving holds from six to eight volumes. A shelf may be considered full for planning purposes when three-quarters of it is occupied by books.

Stacks may be located to the rear of a building with book lifts or conveyors for delivery of books to any one of the tiers of stacks. In some buildings a block of stacks is located through the center of the structure with reading rooms surrounding it. Another arrangement in some large libraries is to have the stack area occupy several levels immediately below the main floor with its subject departments.

Multi-tier stacks, many levels in height, are becoming common in various types of large libraries. Whether a building for joint storage of less active material by more than one library in a community should be considered is still problematical. The Midwest Inter-Library Center in Chicago is working it out on a regional basis.

There is no need to dwell on the details of the shelves themselves. Librarians are well aware of the various types of adjustable steel shelving, including the newer types of "compact" stacks.⁶ There is a comprehensive discussion of where to use the latter type.⁷ Attendance at any large professional library conference will insure up-to-date knowledge of all of these items. The new, folding type of shelving used by the Midwest Inter-Library Center is shown in an article in the *Library Journal*.⁸ One word of caution about shelving though—think long and carefully before tilting the lower shelves in stack systems. Some librarians, stuck with tilted lower shelves and nursing barked shins feel quite strongly on this subject. Let us also recognize that there is a marked trend toward the securing of cheap storage space for the housing of inactive stack materials at some distance from the library itself.⁹

Having skimmed over these subjects let us consider some of the current problems in stack management. For the purpose of clarification this discussion excludes bookshelving around the walls of reading rooms. It refers to stack units apart from the reading areas, even though adjacent to them. Stack problems fall into the following fields: (1) administration; (2) type of stack; (3) control of material loss; (4) control of atmospheric conditions; (5) cleaning of material; (6) efficient service; and (7) lighting.

One of the problems of stack management has to do with admin-

RUSSELL J. SCHUNK

istration. Some librarians believe that stack areas should be administered by the heads of the different subject service departments. For example, a number of public libraries have adaptations of the "museum or Baltimore layout." In this arrangement, subject reading areas are grouped around a central main floor hall or court and beneath each subject area are the book stacks. The stacks house somewhat active materials such as bound periodicals and government documents on the levels nearest to the main reading room and less active files on the lower levels.

This theory of stack administration is not sound for it brings about uneven service, piecemeal planning, and spot coverage of the various areas. It would seem to be much better management to place the entire stack system under the supervision of a non-professional manager. He should be directly responsible to either the head of the circulation department or the head of the general reference department. Then all policies, personnel training and service techniques can be efficiently established and maintained.

Open stacks. Direct access to book stacks makes the control problem acute. Care should be exercised to provide adequate supervision. This may include inspection of brief cases if book losses have been heavy. Of course stacks should be planned so that there are no fire exits or other unlocked doors near them or in unsupervised spots. Where fire exits are present because of peculiar problems encountered in planning, panic bolts and alarm devices should be installed.

In open stacks be sure to provide plenty of table space for users. Locate tables at strategic points as "oases" or obtain standard stack half-tables to hang at convenient locations. This will keep books from being dropped and damaged—things that happen often when a reader gets tired standing, leaning against a stack. Then, too, if users are encouraged to leave material on the tables when they have finished, it can be reshelfed accurately by experienced shelfers.

The matter of permitting smoking in certain areas in libraries may present a real problem in open stack management. Some libraries are developing lounge areas, conference rooms and seminar rooms. Here, in an effort to obtain informality, smoking facilities are provided. This trend is all well and good but its carry-over into unsupervised stacks is another matter. Not only does it impose an additional cleaning load, but also it can be dangerous to the safekeeping of valuable material. This does not mean that the fire hazard is great in modern libraries, for books are difficult to burn. On the other hand, lighted cigarettes

Stack Problems and Care

can do a great deal of damage to individual items of stack material—especially if used as a book mark!

Closed stacks. Control of these stacks is very important because so little actual supervision is possible. It is in this type that fire exits are very common because of building code requirements—and lots of books are lost because of them. The same controls listed under "Open Stacks" should be applied here. Elevators, especially those with doors on both sides, are another potential danger to the book collections. The library's public—student or layman—must be barred from them. It may be advisable to key-control one or both sides of the elevator.

Provide adequate table space for book returns. These will come back in large quantities. If there is insufficient flat surfaces, bindings will be damaged through improper piling. Be sure to provide sufficient book-lifts or elevator units. Otherwise stack personnel will have to cart arm-loads of books up and down steps—to the detriment of the books through dropping—to say nothing of the detriment to the staff.

Speedy service is a real problem in a larger closed stack area. Stack attendants must be located at strategic points not only to get the books-wanted slips but also to service a natural unit of the stacks—subject or level. Pneumatic tube systems, telautographs, telephones, and other devices are being considered for various installations. They add to the expense of a stack system but, on the other hand, if the operation is large enough, they may be a real economy in staff time.

Another problem that may arise in the control of stacks is the situation when the library is not the only service in the building. For example, a college library may be connected with some other building on the campus. If either service maintains hours of opening different from the other, there is a serious control problem as far as the library's stacks are concerned. If the library elevator must function as a service elevator for some other college or department, additional problems of access to the stacks will arise. Obviously, the time to eliminate these control problems is during the planning stage. Yet several new libraries have been unwise enough to disregard these problems and now must live with them.

A number of closed-stack systems have special problems in connection with rare or irreplaceable material. This material may include a wide variety of items: incunabula, manuscripts, out-of-print publications, art books requiring special and restricted use, books on symbolism and foreign imports which might be considered pornographic in any but the hands of scholars. These usually are housed in locked, screened sections of closed stacks called "cages." Access to the cage

RUSSELL J. SCHUNK

may usually be had only when accompanied by a library administrator who functions as a library "keeper."

Color. Another trend that is taking place in library open-stack planning is the use of color in stack areas. One library—at Carlton College—is using three different standard stack colors—green, blue and brownish red—in different portions of its ranges. The difference in color is used on the finished ends of its ranges only. The shelves themselves are all of the same color—grey.

Cleaning. There should be a schedule for regular cleaning of books, using specially developed vacuum equipment and extreme care. More damage has been done to books by their friends, the cleaners, than by either dirt or improper variations in humidity.

A spray has been recently developed which may be helpful in book cleaning. It renders dust heavy so that it can be picked up on dust cloths or by the vacuum without flying around in the air. Claims for ventilated shelves and other devices to the contrary, the obvious and best way to keep collections clean is to prevent outside dirt from ever entering the stack area. Once in, it is hard to remove. So many methods of cleaning have been devised that about the only thing that can be said is, "Use equal parts of good equipment and good judgment." The following old-time method of collection-cleaning leads one to wonder just how the books fared:

Several men and women were hired to do the heavy work. The men took the books from the shelves and placed them upon library trucks, being careful to keep them in proper order. When a truck was full it was wheeled to a point near an open window where a tub of water was standing. Half a dozen galvanized tubs had been rented for the purpose, and were kept full of fresh water. The men would take two books from the truck and first clap them together, knocking dust and dirt from the surface into water. Then each book was taken separately, opened over the tub, and the leaves aired by holding the back up, with one cover horizontal, and allowing the leaves to fall rapidly, thus emptying the book of any loose objects it may contain. It was a marvel to the workers to see how the water absorbed the dirt. . . . Meanwhile one of the women had thoroughly cleaned the shelves, and when the truck was wheeled back, another removed the books and carefully wiping them with a cloth, placed them back on the shelves as before.¹⁰

Humidity. Ideal humidity for book storage stacks is 55 per cent. Great care must be taken to avoid different humidities in open areas of the same building as condensation will result. Some libraries have forced-air, circulated through ducts in the various stack areas, with

Stack Problems and Care

some humidification but no dehumidification. With these systems excessive humidification should be avoided. Some libraries report that unit air conditioners have helped to correct bad conditions.

In stacks below ground level, mildew or mold may plague the collections, for book sizing, if moist, is a fine place for mold to develop. If the foundation walls have been poorly constructed or the site has been inadequately drained, the librarian is faced with a bad stack condition to cope with and must get artificial drying equipment to continually combat the moisture. Devices employing calcium chloride are on the market for this purpose. But, when possible, why not build the library right in the first place?

While on the subject of moisture and book stacks, it should be remembered that water is a greater cause of book loss than fire. Floods have caused extensive losses to some of our libraries and book drying afterwards is only a matter of saving something from the ruins after a bad library location has resulted in damage.

Windows. Newer stack systems are being planned without windows, for both sunlight and dirt-laden fresh air are real enemies of books. If staff members suffer from claustrophobia, provide small windows that have glare-reducing glass and that are fastened shut permanently.

Lighting. The type of stack fixture should be chosen for its light production output—not its aesthetic appeal. Whether it looks like a cap with earlaps or an old-fashioned gas jet globe is not important. The question is "What does the light meter read—especially at floor level and at top shelf level. Thirty-five foot-candles should be a minimum of illumination. Be sure the fixture is one that can be easily cleaned.

The control of stack lighting is important. Some modern installations are installing timed light switches. These may be adjusted to turn lights off after intervals of from 10 to 25 minutes. More exact timing should be established after the stack area is in use.

In conclusion, when planning a new building consider the book-stack unit as a package of problems related to other library problems but in many ways separate from them. If possible in a large new library project make the stack contract a separate one for general contractors do not have the "know-how" of expert stack engineers and manufacturers.¹¹ In any case, serve your library stack through careful planning, supervision, and improvement and it will pay real dividends.

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The Bindery Within the Library

ROBERT E. KINGERY

AS KENNETH GRAHAM SAYS in his delightful essay *Non Libri Sed Liberi*, "as a general rule, the man in the habit of murdering bookbinders . . . only wastes his own time and takes no personal advantage."¹ Thus it is not our intention here to murder anybody, not even those who let "the weary weeks lapse by and turn to months, and the months to years, and still the binder bindeth not."² Rather, we seek to approach that long-standing question: when is a library justified in setting up its own bindery? And if by chance we reach a general rule, then the most we will admit to is making the pistol, not shooting it.

A search of the literature reveals several somewhat categorical answers to our question. J. T. Gerould, speaking for college libraries, states: "The installation of a bindery is not to be recommended. Except in very unusual circumstances and in very large libraries, it is at once less expensive and more satisfactory to have the work done outside."³ Wheeler and Githens say: "A definite warning must be given against the idea of setting up a complete bindery in any public library except one of the very largest, where the volume of specialized work may warrant it." Yet in 1930, the New-York Historical Society admitted to a "long-felt want of a bindery,"⁴ and in 1948, Wesleyan was still enthusiastic about the bindery it established in 1934.⁵

A cursory survey indicates that the number of binderies in libraries has not increased markedly over the years. The American Library Association Survey of 1924 reveals that, at that time, twelve public libraries maintained their own binderies.⁶ They were Boston, Detroit, Kansas City, Minneapolis, New Orleans, New York (Reference Department), Omaha, Pittsburgh, Portland (Oregon), St. Louis, Seattle, and Washington. This survey is silent on binderies in other kinds of libraries. In early 1952, a trade magazine established that "true bindery departments" existed at Boston, Detroit, Kansas City, Milwaukee,

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ROBERT E. KINGERY

Minneapolis, New York (Reference Department), Pittsburgh, Queens Borough, St. Louis and Seattle, a total of ten.⁷

In the same year, J. B. Stratton determined that six college or university libraries operated their own binderies or had their binding done by their university presses.⁸ More recently, the Library of Montana State University at Missoula discovered that four institutions had library binderies (Kansas, Nebraska, Oklahoma, and Utah State Agricultural College) and that four had binding done by associated press binderies (Oregon, Stanford, Colorado, and Washington State).⁹

Against this remarkably stable situation, it is interesting to consider the development of the commercial library binding industry during the same period. A check of the advertisements in the 1924 issues of *Library Journal* reveals ten binders, all located in the northeast except for two in Chicago. The *Thomas' Register* for 1924 lists thirty-two binders throughout the country, but makes no distinction between edition and library binders.¹⁰ Again, the concentration is in the northeast. In early 1955, the Library Binding Institute reported forty-eight members in twenty different states, mostly located in the eastern half of the country.¹¹ The 1955 *Thomas' Register* gives a "limited list" of seventy binders, not differentiated.

Concurrent with this growth, we need to keep in mind the establishment of the A.L.A. Committee on Bookbinding in 1923, of the Joint Committee of the Library Binding Institute and A.L.A. in 1934, and the development of the "guide of fair value" and the "minimum specifications." A more recent landmark is the promulgation of fair trade practices for the library binding industry by the Federal Trade Commission.¹²

Historically, in view of the rapid growth in the number and size of libraries in the last thirty years, part of the answer to our "general question" emerges in that most libraries have not felt justified in establishing their own binderies, but have relied on the services of the trade.

However, A. L. Bailey found ten advantages to "having a bindery in the building,"¹³ here given in abbreviated form:

- "1. It is more convenient. . . 2. There is less chance of losing books. . .
3. There is no chance of damage to books in transit. . . 4. Repairs which are too difficult for the ordinary library staff member to make can easily be done in the library bindery. . .
5. The books need not as a rule spend so long a time in the bindery. . . 6. There is a certain amount of competition which works to advantage if part of the books have to be bound outside. . .
7. The librarian can at all times inspect materials

The Bindery Within the Library

on hand and see the books in the process of binding. . . 8. When the work reaches a certain amount it can be done at reduced cost in the library, since the ordinary profits of the bindery will accrue to the library. . . 9. It is much easier to make experiments with new materials or new processes. . . 10. A Bindery in the library can do much work . . . which needs skilled workmen. Such work frequently remains undone . . . because it seems unwise to send it outside the library. . . Such are some of the benefits, but only the larger libraries which bind many thousands of volumes can take advantage of them successfully from the financial standpoint.¹³

In considering the question "Does Our Bindery Pay?" Wesleyan University reported faster service, a better quality of work and more comprehensive service.⁵ This bindery was not set up primarily to save money. However, for the year 1947-48, work which would have cost an estimated \$9,080.87 if done outside, was completed within the library for \$8,064.14 covering both labor and materials. No charges were included for rent, janitor service, light and heat, or insurance.

Echoing Bailey, the New-York Historical Society finds that "the bindery is, however, the only satisfactory solution to the problem of avoiding the risk involved in sending valuable books and papers out of the building to be rebound."¹⁴

James Cranshaw argues that "the home bindery offers a quicker flow of binding, a larger variety of styles, opportunities for wider ranges of stock, cheaper bookbuying, and experimental work of many kinds. . ."¹⁵

M. F. Tauber summarizes the advantages as: "The presence of such a bindery allows for personal supervision and the application of special methods to the needs and conditions of the institution. Moreover, it has been found that, under certain conditions, the bindery within the library can reduce the costs of binding. Finally, the materials in process are always within reach, and, theoretically, readily accessible to the users."¹⁶

Thus, given a certain amount of binding to be done, arguments have been presented that a bindery within the library is more economical, faster and safer, results in better quality, allows for experimentation and special work, and keeps material in process available for use.

The primary factor of cost is a very complex one. There are not only operating costs, but the initial investment in equipment. And meaningful operating costs should include charges for space, heat and power, maintenance, and insurance.

Rough calculations suggest that for a bindery capable of binding

ROBERT E. KINGERY

or rebinding approximately 35,000 volumes a year, an initial investment of \$40,000 is needed. This contemplates the use of an oversewing machine, a power cutter, and some technique of line-casting for lettering. If hand setting for lettering is used, this figure could be cut almost in half but there would be considerable danger that material would pile up at the "finishing" stage. The annual charges for supplies and salaries would probably approximate \$75,000. To meet this output, a staff of roughly eighteen people would be needed: six collaters, one oversewing machine operator, four forwarders, two finishers, two type-setters, and one or two supervisors. After thirty years, much of the equipment would need replacing.

Of course, for a bindery capable of binding or rebinding as few as 5,000 volumes a year, the initial investment might be as little as \$5,000. Here, hand-sewing would be used, and the lettering hand-set. Supplies and salaries for a required staff of five might approximate \$20,000 a year. Equipment replacement would not seem to be a problem.

In these two theoretical binderies, we could hope to achieve a unit cost of \$2.12 in the larger and \$4.00 in the smaller, leaving out of our calculations any out-of-the-ordinary work which could be done. We can check our theory against the unit cost of roughly \$2.41 at the Minneapolis Public Library which reported 32,544 volumes bound or rebound at a cost, for both materials and salaries, of \$81,126.20 in 1953.¹⁷ For the same year, The New York Public Library Reference Department achieved a unit cost of \$3.78 (40,339 volumes for \$151,-953.24).^{18, 19} Since this is a large research library, much specialized work is done and the ratio of periodicals to books is very high.

The "Guide of Fair Value," revised December, 1948 and included in L. N. Feipel and E. W. Browning's, *Library Binding Manual*, gives a range of from \$1.11 to \$2.01 for binding books and \$2.65 to \$4.35 for binding magazines, depending on height.²⁰ A limited sampling of present prices charged by commercial binders reveals \$1.70 as the average for books and \$3.80 for periodicals.

Accordingly, it would seem that binding within the library is not certain to be economical. Gerould states that, "The overhead costs of running a bindery decreases as the volume of work increases; and, unless the binding appropriation is in excess of \$10,000, it is more economical to have it done under contract with some firm that specializes in this type of work."²¹ J. L. Wheeler and A. M. Githens are emphatic in saying that, "Better work—more promptly done and at lower prices—can be obtained from commercial library binders, using standard A.L.A. specifications which secure work of almost perfect uniformity

The Bindery Within the Library

at scales arrived at by competitive bidding."²² Certainly Gerould's \$10,000 is too small now, even if valid in 1932. It may well be that an annual binding load of 35,000 volumes is the critical amount, which we have translated here into an annual binding budget of \$75,000.

In 1953, a subcommittee of the District of Columbia Chapter of the Special Libraries Association reported, based on a survey of thirty-one libraries, that binding by the Government Printing Office costs 265 per cent as much and takes 237 per cent as long for completion as required by commercial binders.²³ While the Government Printing Office is not a bindery in a library, these findings are startling indeed, and not unrelated to our problem. This investigation would seem to support the Wheeler and Githens view that "the library, without the competitive commercial incentives to economy, such as adequate supervision and speed-up, is entirely out of the running on the bulk of resewing and rebinding."²⁴

Obviously, the question of whether a bindery in the library will be faster than an outside bindery is a complex one with the answer certain to vary from place to place. While a book in any bindery is a frozen asset from a library point of view, adequate binding requires a certain amount of time, wherever it is done. Wesleyan reports that material moves through its bindery in from two to three weeks, and that in an emergency, binding can be done in forty-eight hours.⁵ Ernst Hertzberg has suggested that an even flow of material to an outside binder is a big factor in securing better service.²⁵ Feipel and Browning reiterate the importance of neither too little work or too much rush.²⁶ To the extent that speed is the result of efficiency, and the opportunity for efficiency increases in relation to the size of the operation, the large outside bindery can usually be expected to do better than the small internal operation.

Time in transit is a factor in the length of time material will not be available for use, particularly when the bindery is located in another population center. However, the growth of regular and irregular-route motor freight carriers suggests that this consideration is far less important now than it may have been in the middle 1920's. Air freight and air parcel services may provide a solution to in-transit time when speed is of great importance.

The number of library books lost in commercial binderies must be small in relation to the number lost in other ways. The question of possible loss is of obvious importance where rare, antiquarian material is concerned.

Modern techniques of packing, if utilized, will protect books in

ROBERT E. KINGERY

transit. However, Wesleyan notes savings in packing for shipment and in transportation charges when binding is done in the library.⁵ R. F. Drewery comments on these same savings as well as on other clerical and technical operations which may be eliminated when the bindery is internal.¹²

On the score of quality, the A.L.A. and the Library Binding Institute are developing a Commercial Standard for Library Binding.²⁷ The Federal Trade Commission rules include a number of quality assurances.¹³

There is evidence that binderies in libraries have resulted in experimentation. H. M. Lydenberg and John Archer at The New York Public Library tested the durability of various types of binding materials as well as the responsiveness of various preservatives used on bindings.²⁸ Stanford has experimented with the new adhesives in making shelfable units of pamphlets and magazines for which regular binding is not required. Stratton reports other developments at Colorado, Oregon, and New York University.²⁹

As to availability of material, Gerould notes that:

"It is a convenience, of course, if the books and periodicals which are being bound can be produced to satisfy an emergency demand. The period of maximum use of a volume of periodicals is exactly that in which it is being bound; but if the loss of parts is to be prevented, the volume should go to the bindery as soon as possible after its completion. The conflict of interest is inevitable. If it is known that, while they are in process of binding, books can be produced, there will be insistent demands for them, occasioning an expensive search and a much greater danger of loss. If the books are unavailable, the demand will less frequently arise."³⁰

It should be remembered here that there are some stages in the binding process, whether it goes on inside or outside, when material is not available for use.

Tauber notes that, "The factors which need to be considered in deciding whether or not to establish a library bindery include the amount of work to be done annually, the physical quarters available, the specially trained personnel needed, and the additional financial burden which will result from installing and operating the bindery."¹⁴ These and other organizational problems will remain with the librarian even after the decision to establish a bindery within the library has been made.

Library literature is largely silent on the subject of the place of binding in the organizational structure. The McDiarmids found that

The Bindery Within the Library

thirty-one public libraries had binding departments and that one had a "catalog, order, and binding" department. They suggest that binding be part of a larger "Processing Department" in large public libraries.³⁰ Donald Coney supports this view in theoretical terms.³¹ K. D. Metcalf sees binding as part of the "general business and administrative side."³² By its very nature, binding would appear to belong under either processing or business operations, with the total organizational pattern indicating which is preferable, and with provision for coordination of both processing and business aspects essential.

Wheeler and Githens have developed floor plans for both small and large shops for rebinding.³³ Tauber suggests that, "If the library building was not originally planned to include a bindery, it may be difficult to find adequate space which is well lighted, equipped with the necessary electrical outlets, and provided with suitable connections with the other units of the library."³⁴

On personnel, Bailey poses the following questions: Can a good foreman be employed? Is the local rate of wages so high as to make the cost of the binding in the library equal the cost in a good bindery outside the city?³⁵ Tauber suggests that "at least one person in the library bindery should be thoroughly skilled in the details of binding operations" and that "in the decision to set up a bindery within a particular library, the potential supply of personnel may play an important part. Selection and training of subordinates in the bindery will constitute an important function of the department head."³⁶

Iowa State believes that rising binding costs there are due to a large extent to inability to keep labor, either skilled or unskilled, for any period of time.³⁷ Stratton notes that some college libraries "may have to stop their own binding because of increased costs of union labor."³⁸ For several reasons, the establishment of a bindery will inevitably increase the scope and intensity of personnel activities in the parent library.

Bookbinding and Book Production reports, that "the monthly salary scale of the Bindery Foremen varies from a low of \$350 a month to a high of \$480, the latter figure resulting from the efforts of a strong bindery union. The average per month proved to be about \$420. Three libraries work under a union scale; two do not . . ."³⁹ Science Research Associates record an average hourly wage rate of \$2.07.⁴⁰ The Michigan Employment Security Commission records minimum union hourly wage rate of from \$1.46 $\frac{1}{2}$ to \$2.77 $\frac{1}{2}$, and weekly salaries of from \$40.00 to \$60.00 in non-union and government binderies.⁴¹

ROBERT E. KINGERY

Although there is a vocational text,⁴¹ and while some schools teach bookbinding as a trade, entry is usually by apprenticeship. In commercial binderies, application for apprenticeship is customarily through the union, with acceptance or rejection by mutual consent of both employer and union, International Brotherhood of Bookbinders, American Federation of Labor. Promotion is through on-the-job training, and the status of journeyman is reached after about four years. Thus, libraries must expect to obtain trained personnel either by attracting employees from commercial binders or by training within the library. Since such jobs are plentiful, at least in the larger population centers, the library can anticipate having to compete for personnel with private industry.

W. H. Baatz notes that, "The Bindery Foreman usually works under a 'Head of Bindery,' or a 'Superintendent of Binding,' or some other professional library staff member. . . . This administrative superior to the Foreman ordinarily does the buying of materials, interviewing of salesmen, plans the general flow of work, budgeting, and relations with other library departments."⁴² This poses both an administrative and personnel problem. We have previously discussed the question of the place of the bindery in the administrative structure. Here, we are faced with the necessity for correlating the salary of the "administrative superior" with the pay of the bindery staff. Bindery salaries must also be in line with the pay plan for the whole of the professional library staff.

Certainly the "administrative superior" must be provided, for even an auxiliary enterprise such as binding must contribute toward the achievement of library purposes. Somebody's interest, time and energy is necessary to see that it fully does so.

Tauber notes that, "Careful thought must also be given to the planning of routines and schedules if the maximum advantage is to be derived" from the establishment of a bindery within the library.⁴³ Inevitably, the establishment of any new activity increases the size and complexity of a library operation. Since development in one direction is usually at the expense of progress in another, it may well be a "general rule" of library administration to avoid auxiliary activities which can be adequately provided by private enterprise. Perhaps our long-range binding interests will be best served by making use of and working with the library bindery trade at our individual library level, thus encouraging further growth and development in a competitive atmosphere.

Bailey emphasizes that "in the first place, local conditions must be

The Bindery Within the Library

taken into consideration."³⁵ As Tauber says, "The question of whether or not a library should operate its own bindery is still an important one, but one which cannot be settled categorically. On the surface, it would seem that a library of moderate size would gain much by the establishment of its own bindery. The matter becomes more complex, however, when the problems which attend the operation of such a plant are considered."¹⁶ Here we seem to have a clue to the "general rule" we have been seeking and that rule appears to begin with the words "it all depends. . . ."

However, Tauber warns that, "Only in rare instances will it be wise management to allow convenience to outweigh financial consideration."³⁷ As Coney noted some years ago, "accident conditions organization" and so it should.⁴⁸ But, unless the decision to establish an internal bindery is carefully considered, we may find, to return to Kenneth Grahame, "the floor strewn with fragments of binder—still the books remain unbound. You have made all that horrid mess for nothing. . . ."¹

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ROBERT E. KINGERY

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Libraries and Commercial Binderies

JOHN B. STRATTON

IT HAS LONG BEEN the custom in Europe to publish books in paper covers. Collectors who wanted to preserve their books in hard covers had them individually bound to their special requirements. Binding of books individually was and still is a common business. From Holland, Switzerland, France, Germany, and other European countries binders have come to this country and established firms which continue to do custom binding. Some of these firms have an enviable record of more than fifty years of bookbinding service.

However, in this country binding for libraries rather than for individuals has been their principal source of business and the firms have become known as library binders. Their work is characterized by sturdy custom binding of individual volumes as contrasted with the work of edition binders who bind editions of hundreds of thousands of copies of the same book for publishers or the work of firms who bind blank books for record keeping. Fine binding of rare books and collectors' items is another specialty although some commercial library binders are capable of doing such work.

A commercial library bindery is privately owned and operated for profit. In such a concern private enterprise and individual initiative are brought to the fore and in competition with other concerns often produce the best service at the lowest cost. As will be noted later, however, competition has harmful as well as laudable features not only for business concerns but also for customers. Institutional library binderies are run either by a library or by the institution of which the library is a part, such as a university or by a university press. The manager and employees are on a salary. They are organized to reduce expenses and to improve service to the library. Prison library binderies are sometimes termed institutional binderies though the author prefers to place them in a separate category. These are operated with the dual purpose of saving money and rehabilitating prisoners through useful, creative work involving the use of hands. Laudable as the ob-

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JOHN B. STRATTON

jectives of prisoner rehabilitation may be, the author knows of no library receiving satisfactory service from a prison bindery.

While distinguishing commercial library binderies it may be well to point out that most libraries share with other educational institutions the distinction of being organizations which the public is willing to support with public funds. Service rather than private gain are the wellsprings of successful operation and the enterprise is carried forward by the initiative of salaried employees.

The total annual dollar volume of library binding business amounts to over three million dollars. About 80 individuals or firms engage in library binding in about 40 states of the United States. Fifty of these are members of the Library Binding Institute in 23 states and Canada. About 86 per cent of the library binding in the country is done by commercial binderies, 14 per cent is done by institutional library binderies. The amount of work of prison binderies is negligible. Libraries are the principal source of business for commercial binderies, other sources being schools, bookdealers and individuals.

More than 10,000 libraries located throughout the 48 states and Canada use the services of library binders to bind periodicals, rebind worn books and, largely for the children's department of the public library and school library, prebind books. Large and small public libraries, college and university libraries, school libraries and special libraries make up the 10,000 libraries using library bindery services. The dollar volume of library binding of 210 colleges and universities reporting statistics total close to \$1,500,000.¹ The binding needs of these libraries necessarily differ as they preserve the variety of library material which they acquire. In this situation it is highly desirable though difficult for libraries to cooperate with each other in the solution of their binding problems. It is natural, though possibly not always desirable, that the few competing library binderies co-operate with each other. Real cooperation between the producer and the consumer to achieve the optimum bindery service to libraries is a goal, the achievement of which is worth considerable effort.

In times past without such cooperation the attempts of competing commercial binderies to meet the variety of binding needs of libraries has led to unsatisfactory binding conditions, poor quality of binding, slow service, and even loss of valuable library material by the binders. Part of this was brought on by the excessive individualistic demands on the part of libraries and misrepresentation on the part of competing binderies in their attempts to secure business by cutting prices and lowering the quality of product.

Libraries and Commercial Binderies

Concerted efforts to improve binding were made as early as 1909 when a Committee on Bookbinding of the American Library Association prepared Library Handbook No. 5, *Binding for Small Libraries*. John Cotton Dana published a book, *Notes on Bookbinding for Libraries*, the same year. He listed twelve different types of binding for magazines. Mary E. Wheelock, a librarian in the Cleveland Public Library, is said to have formulated the first specifications for library binding in 1916. These specifications were used by a school library in California to improve the rebinding of school books. The approval of the specifications by A.L.A. was a very influential factor in the acceptance of these specifications.

Just after the first World War in 1919 the Employing Bookbinders Section of the Book Manufacturers' Institute was organized. The decade of the twenties, largely through the leadership of Miss Wheelock, was one of considerable activity, improving binding for libraries. The A.L.A. Bookbinding Committee was created in 1923 as a standing committee. Specifications for binding of reference books were formulated for the guide of publishers. Pamphlets on library binding were published and distributed to librarians. The rag paper edition of the *New York Times*, promoted by the A.L.A. Bookbinding Committee, was begun in 1927. Miss Wheelock was a member and chairman of the A.L.A. Bookbinding Committee for a number of years. Cooperation between the Bookbinding Committee and the Employing Bookbinders Section of B.M.I was begun. Miss Wheelock attended their annual meetings and for five years was named an honorary member of the section.

The depression of the early thirties interrupted this program of improvement in library binding. Competition was keen for the reduced amount of rebinding available from libraries. Prices were cut; wages to binding employees were in some plants as low as 20 cents an hour. The quality of binding suffered.

The National Recovery Administration proved to be the impetus for a more formal cooperative program between A.L.A. and the Library Binders' Group of the Book Manufacturers' Institute. The Code of Fair Competition of the Graphic Arts Industries included the book manufacturing industries. In the part of the Code setting forth the specific provisions for the book manufacturing industries there was a special section for library binders which included the following:

(1) Specifications. The standard to govern a Class "A" library book binding shall be the specification of the Book Manufacturers' Institute when approved by A.L.A.² The A.L.A. Bookbinding Committee pre-

JOHN B. STRATTON

sented to the Council the specifications for library binding with a recommended procedure to insure enforcement. The procedure provided for a joint committee of librarians and library binders appointed by A.L.A. and the Book Manufacturing Industry for continuous enforcement of the specifications and such other matters as may arise, requiring cooperation and the mutual interchange of experience. The specifications should be widely distributed and should be made a part of any contractual arrangement with a library binder. Complaints should be sent to A.L.A. Headquarters to be transmitted to the code authority for investigation and action. The report of the Bookbinding Committee was accepted by the Council on June 30, 1934, with the reservation that the Executive Board be authorized to withhold filing of the specification until they be assured that the American Library Association will be permitted on its own initiative to prepare amendments and/or withdraw its approval.³ These reservations were accepted by the Book Manufacturers' Institute,⁴ and on October 16, 1934, the Executive Board voted that the Book Manufacturers' Institute and A.L.A. appoint a joint committee and that the recommendations of the A.L.A. Bookbinding Committee to Council be implemented. The Code of Fair Competition provided basically for wages, hours, and working conditions in the book manufacturing industries. The specifications were not mandatory on the librarians but were mandatory on the library binder if requested by the librarians. There were also non-mandatory price provisions. The non-mandatory price provisions were incorporated in a Guide of Fair Value for Library Binding as passed by the Coordinating Committee of the B.M.I. The Guide was intended to protect the librarian from excessive prices for quality binding which followed Class "A" specifications and to protect the library binder from being asked to produce Class "A" specification binding at a price below cost.

The important new Joint Committee met two days in January 1935 to plan an organized program cooperatively. The board tackled problems of how to insure widespread use of the specifications, to recommend the Guide of Fair Value for Library Binding for approval by the A.L.A. Executive Board, to devise a seal or symbol to be placed in Class A Bindings. A special committee charged to make an early study of methods of reducing the cost of library binding included Pelham Barr, divisional code director for library binding of the Book Manufacturers' Institute.⁵ What the results of such a program started so auspiciously would have been with the government as partner and referee is inter-

Libraries and Commercial Binderies

esting to contemplate but in June of that same year the act supporting the N.R.A. program was declared unconstitutional.

Immediately an article appeared in the *Library Journal*⁶ by Pelham Barr, then executive director, Library Binding Division, Book Manufacturers' Institute. He wrote:

"The Library Binding Industry and its cooperative program with the libraries will not be affected by the recent Supreme Court decision on N.R.A. The program of the Joint Committee of the A.L.A. and Library Binding Division of the Book Manufacturers' Institute was soundly established last January on a basis entirely independent of code activities. . . .

"The only mandatory provisions of the Graphic Arts Code which the library binders used were the labor provisions. Specifications, prices and trade terms, even under code procedures, were based on non-mandatory provisions; their power was derived from their approval by the Joint Committee and voluntary compliance by the binders. The Minimum Specifications for a Class A Library Binding, the Guide of Fair Value and the rest of the cooperative program approved by the Joint Committee, therefore, continue in effect.

"Immediately after the decision, the binders began to pledge themselves, in writing, to continue the minimum wage and maximum hour provisions of the code and not to employ child labor.

"Librarians therefore have the assurance of the library binding industry that the standards of quality and fair dealing established during the past two years will be maintained."

The differences of the problems of the library binder from those of the other members of the Employing Bookbinders Section of the Book Manufacturers' Institute were now recognized. The Library Binding Institute was formed independent of the Book Manufacturers' Institute.⁷ The able Pelham Barr became the executive secretary.

After the removal of the government as partner and referee a diligent search by the author has found no instance where important binding matters considered by the Joint Committee, other than binding specifications, were referred to the A.L.A. Council or Executive Board for review or approval. Nevertheless, the next decade saw great strides taken toward the improvement of library binding service. Binders recovered from the depression, maintained plants with better working conditions that were more efficient and produced a better quality of binding.

The period from 1936-1941 might be termed the golden period of improvement of library binding. The Joint Committee concerned themselves with twelve general areas which were: Specifications,

JOHN B. STRATTON

Guide of Fair Value, Exhibit of Good Binding, Manual for Buyers of Binding, Certification Plan, Standardized Magazine Lettering, Standardization of Cloth Colors, Suggested Document Forms, "Excessive" Truck Calls, Misuse of Shipping Containers, Relief Mending Projects, and Binding in Library School Curricula.⁸

Certification of library binderies was given first priority. In order to be certified, library binding must:

1. Prove that it can maintain standards of quality by producing bindings in conformity with the Minimum Specifications for a Class A Library Binding, and pledge itself to deliver such bindings whenever specified.
2. Pledge itself to maintain the standards of wages and hours prescribed in the Graphic Arts Code and not to employ child labor.
3. Pledge itself to abide by the legal principles of fair competition and fair trade and not to engage in fraud, misrepresentation or similar practices detrimental to the interests of its customers.
4. Protect the property of its customers with adequate insurance.
5. Prove its general business reliability through the testimony of those who do business with it.
6. Agree, through membership in the Library Binding Institute, to make itself amenable to investigation by the Joint Committee and to such disciplinary action as may be legally within the Committee's power.

A provisional list of sixty binderies were placed on the certified list. Certification was open to any library bindery in the United States. All certified binders submitted work to a Board of Appraisal to determine if the binderies were capable of doing Class A work. The other qualifications needed to meet the approval of the Certification Committee made up of librarians only, a sub-committee of the Joint Committee.

The work of the committee was well publicized to librarians and binders through pamphlets, articles, and news notes in the *Library Journal* and other publications. Librarians wrote for the list of certified binders and were pleased to find firms with whom they were doing business on the list. As may be expected, abuses of the new plan were made. Some binders presented the Guide of Fair Value library binding as the fixed price list. Such circumstances were resolved through the efforts of the Library Binding Institute. The library members of the Joint Committee were also members of the A.L.A. Bookbinding Committee and worked in close cooperation with them. The work of the Bookbinding Committee and its Joint Committee received com-

Libraries and Commercial Binderies

mendation from the executive secretary of the A.L.A. C. H. Milam said: "The Bookbinding Committee, and particularly those members of it who serve on a joint committee with the Library Binding Institute, has dealt constructively but conservatively with some of these delicate problems which arise when a professional and a commercial organization attempt cooperation."⁸

Unfortunately, because of constitutional limitations of A.L.A., committee members could not serve continuously more than five years. The able, early members of the Joint Committee, who had worked out the cooperative arrangements with library binders, were replaced by other representatives of the Bookbinding Committee at the beginning of the second World War.

The war period was another trying time for libraries and library binders. Skilled employees left to work in war industries. Binding materials were non-priority items and were in short supply. Because of the program of specifications and through the efforts of the Joint Committee, certain materials were permitted to be substituted and the quality of library binding was maintained. The end of another five year period with another change of A.L.A. Committee membership almost coincided with the end of World War II. Some of the original bindery members of the Joint Committee were still serving.

Following the war with a backlog of library material to be bound and in the face of increasing prices the Guide of Fair Value was raised in July and again in November, 1946, and was raised periodically through the late forties. "Extras" were added to the base price and by 1948 the cost of binding for libraries had increased over 100 per cent with the product under the Minimum Specifications for Class A Binding remaining just about the same.

Nobody was surprised that in times of rising prices the Guide of Fair Value went up. The anti-trust division of the attorney general's office in 1951 checked on trade associations which had begun under the NRA code and continued. After attorneys went through the files of the Library Binding Institute a complaint was filed against the Institute on May 10, 1951. The defendants, while denying the substantive allegations of the complaint, consented without trial to the final judgment which was made May 23, 1952. The Library Binding Institute was restrained from fixing prices, limiting any person in the furnishing or the selling of library binding services, and from allocating markets for library binding services. The Guide of Fair Value for binding services was discontinued. The members of the Library Binding Institute could talk costs but not prices.

JOHN B. STRATTON

The Minimum Specifications of Class A Library Binding have become the accepted standard for a library binding. By adhering to these standards inferior binding has largely disappeared from the library scene. It is a sturdy binding, good for hard-used books like the reserve books in a college library or high circulating fiction or children's books in a public library. The books may circulate a hundred times a year. Minimum Specifications for Class A Binding is an economical binding for such books. Much library material is not of the rapid circulating type. If it is to be preserved, packaging it like a book is the best way even though it may be used once in a year or less. The cost per circulation of a rapidly circulating rebound book may be .025 cents per circulation, but the cost of a rebound item which circulates once a year may be \$2.50.

The obvious solution is more than one type of binding, and at the A.L.A. Mid-Winter Conference in 1952 members of the A.L.A. Bookbinding Committee asked the then executive secretary of L.B.I. to work out specifications for a less durable, not as expensive binding to be used for the less-used library material.

They were disappointed at the lack of enthusiasm of the Library Binding Institute for an additional specification for less-used library materials even though many commercial binders supply such a service to their customers and some university binders bind up to 50 per cent of the material for the library in a board binding at about one-half the cost of buckram binding. Before the Minimum Specifications for Class A Library Binding are made commercial standards, another look needs to be taken at the program of commercial binders as was done when the NRA Code was set up to re-evaluate the program and its effect on libraries and to plan for the future to attack the persistent problems of library binding.

The Joint Committee of A.L.A. and L.B.I. was first a subcommittee of the A.L.A. Bookbinding Committee. As time went on the Joint Committee became more active and the Bookbinding Committee less active. The author was a member of the Bookbinding Committee in 1946 and for five years no meeting was held. When the A.L.A. Bookbinding Committee again became interested in the area of its concern the overlapping of functions of the Bookbinding Committee and the Joint Committee came to the attention of the A.L.A. Committee on Boards and Committees. Both committees were abolished after two years consideration and a single Board on Bookbinding for Libraries was formed. The Board members have longer tenure and continuity of program is possible. Under the former arrangement, the library mem-

Libraries and Commercial Binderies

bers of the Joint Committee changed frequently whereas some of the binding members had a tenure of twenty years. In addition the executive secretary of the Library Binding Institute considered himself to be the administrative assistant of the Joint Committee.

The Library Binding Institute has carried on a publicity campaign to tell all libraries that one specification of library binding, which is relatively high priced, is the best thing for all possible needs for library bindings. They are in the process of a campaign to increase the amount of money spent for binding by libraries. This is not to be wondered at for the Library Binding Institute is a trade association whose purpose is to serve the interests of its members. However, the long time interests of library binders will best be served as they serve the needs of libraries in the binding of books and periodicals.

In the late forties during the time of rising binding prices some individual libraries, in cooperation with their library binders, reviewed their library binding programs. Several which made advances used two or more specifications for library binding. A notable advance was made at the University of Illinois, where critical examination of their bindery procedures was begun in 1948. In cases where more than one copy of a periodical was bound, the question was raised whether additional copies needed to be bound. Instances were found where specifications for a file provided for a more sturdy binding than Class A binding, when the latter would have served just as well. In cooperation with their commercial binder a very fair, flexible binding contract was made, based on a mutual regard for each party's fairness, integrity, and competence. The contract provided for a scale of prices which could be changed at the end of the first year if the binder found that his costs had increased, due to increases in costs of wages, materials and taxes. Likewise, prices could be reduced if the binder discovered that in operating under the contract savings could be made. The contract provided for three different specifications and two simplified practices. The base specification was Class A binding. Simplified practices from these specifications provided for no collation and/or no lettering when requested by the library. There was a specification for a binding more superior to Class A. There were specifications for a board binding for less-used materials which needed to be preserved. A detailed scale of prices was drawn up for each specification and simplified practice, including "extras." The experience under this contract was that the binder was able to make substantial savings in his operations and was able to reduce on his own initiative the prices of binding to the library. This program has continued, though in more recent years a

JOHN B. STRATTON

slight advance in prices needed to be made. At the present time at this large university library the binding program has become current, and the library binder has the grateful thanks of the library for his cooperation. This is a dramatic example of what can be achieved in this field when real cooperation flourishes with mutual understanding and consideration of the problems of each party.

The new Board on Bookbinding for Libraries is in the process of organization. The new Board has the opportunity to make a fresh attack on the library binding problem, still a serious problem in libraries in spite of the advances by library binders in the last twenty years. It has the opportunity to gather together and make known the best experience of libraries in working towards an optimum binding program. It can try to work out non-monopolistic arrangements where there is enough competition between commercial binders so that private enterprise has full play and not unfair competition to the point of bringing about an inferior quality of binding where quality is desired.

The Board can examine the Minimum Specifications for Class A Library Binding to determine if they are minimum, if they are specific, if they are being used as a basis for competitive bidding and quality binding or if they are being used as a selling device and if Class A is a term more properly applied to quality of workmanship than a product, especially if there is no Class B. And if in adhering to a single specification of binding, monopolistic practices are being followed.

The Board has the opportunity to work out specifications to fit the variety of library binding needs of libraries and if they do this work well, it will give to commercial binderies new opportunities of service which are now being missed.

One of the dramatic advances in business since the second World War has been in the packaging industry. What can be applied to the packaging of paper to give a cover on two sides and an edge and leave three edges uncovered? This question opens up a whole area which offers the possibility of preserving the printed page in less expensive manner by devising materials which can be used with less labor and provide quicker service at less cost. Adhesive binding used successfully in England and proved durable in U. S. Bureau of Standards tests has not caught on in this country. It had little chance against Minimum Specifications of Class A Library Binding which specify sewing.

By study, seeking the best experience of librarians the new Board has the opportunity to present the problem of binding in libraries in

Libraries and Commercial Binderies

such a way that commercial binderies will be helped in solving those problems. This forms the basis of a more real cooperation than existed when librarians unquestioningly accepted the help of an association whose main function was to further the trade interests of the members. A new balance of operating procedure is needed to make progress towards a solution of the binding problems in libraries which involve quality of binding, cost of binding, and speed of service. The old and honored art of custom binding needs to be re-examined to serve modern libraries.

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Some Binding Problems Abroad

STEN G. LINDBERG

THE INTRODUCTORY VIGNETTE to European bookbinding research is a rather picturesque scene at Athenaeum Club in London. In 1842 Professor Faraday, the famous physicist, investigated the effect of gas light on binding-leather in the library of the Club. This experiment is described in a British report on leather for bookbinding dated 1905,¹ which is still of value, since those days the problems have been studied with growing interest.

The literature on bookbinding up to 1930 is reviewed by M. J. Hung and O. Glauning in F. Milkau's *Handbuch der Bibliothekswissenschaft*, the standard European work on library science.² Some years later a special bibliography of literature on bookbinding in Europe was published in Germany.³ As the new edition of Milkau's *Handbuch* has not yet reached the binding problems, recourse may be had to the shorter German account by Wilhelm Krabbe and W. M. Luther in their manual⁴ which gives references also to modern German periodicals.

There are, however, more binding problems than there are articles on the subject. Some methods have been dealt with in several publications while others have been developed without ever being described in professional literature. The following brief survey does not pretend to sum up all that has been written in Europe on bookbinding.

The old practice of binding every book in calf has long been discontinued because of rising binding costs as well as an increasing knowledge of the physical properties of the materials used. It is essential to judge the importance of a book and its probable future use and accordingly bind good books in good bindings and bad books in "bad," i.e. cheap bindings. This decision cannot be the same in public libraries and in research libraries, nor can it be left to the judgment of inexperienced assistants. Where this distinction is made, more books can be well-bound for the same sum of money—and funds are always

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Some Binding Problems Abroad

short anyway—than where the old system of indiscriminate binding is still practiced. Throughout Europe there are numerous examples of both methods and of various compromise solutions.

These problems will be treated as follows: binding of new books with different techniques and materials; rebinding; cheap binding; pamphlets; book trucks; the care and repair of old bindings; and the question of commercial binderies versus library binderies.

There is a fundamental difference between the binding problems in a public library and those in a large research library. The research library ordinarily acquires one copy only of each title, which is usually unbound, especially when it comes in by copyright or legal deposit. Such copies must be given a binding that will last as long as possible, since funds do not normally allow for replacing worn-out copies to any great extent. The situation is entirely different in public libraries which may buy more than one hundred copies of the same book at the same time and later discard all of them when the demand for the book has ceased.

In many cases public as well as research libraries solve the problem of binding by buying their books in publishers' bindings. Milkau, it is true, strongly condemned this practice, but today the difference in quality between library bindings and publishers' bindings is not so great as formerly. In England where publishers' bindings have always been excellent libraries have generally used them.

On the Continent a special type of commercial binding for the use of public libraries was developed long ago. Some publishers and binding firms bound part of the entire edition of a book in special library bindings which were subsequently sold to public libraries. A standard type of library binding in full rexine or other imitation leather was thus developed in the 1920's, both in Germany and in Scandinavia.

After World War II the library associations of some countries, in competition with the pre-bound publisher's copies, have undertaken the production of standard bindings. Part of the edition of a title is bound as soon as it is published. As long as the stock lasts, public libraries can order such bindings from the offices of the respective associations, which are also authorized to act as dealers, e.g. the Einkaufszentrale für öffentliche Büchereien at Reutlingen, Germany, the Dansk Bibliografisk Kontor in Copenhagen and Biblioteksentralen in Oslo. There are certain drawbacks to this system, however. Copies purchased wholesale for binding are always sewn and must therefore go through the whole routine of preparation for binding (separation of signatures, removal of glue, etc.). In addition, all shipping and

STEN C. LINDBERG

storage costs have to be borne by the library associations concerned.

In Sweden a new system was initiated three years ago and has since developed rapidly. It is based on cooperation between publishers, binderies, and public libraries. The coordinating organization is the Swedish Library Association (*Sveriges Allmanna Biblioteksforening*), and the actual work is done by its purchasing agency, Bibliotekstjanst at Lund. Publishers send proofs of their forthcoming titles to the Lund office which examines them and circulates lists of such titles as are considered suitable for public libraries. The libraries fill in special order forms and return these to Bibliotekstjanst which then orders the requisite number of copies from the distributing agency of the Swedish Booksellers' Association. This organization handles the administrative side of the matter and arranges for the copies ordered to be sent direct from the publishers' printing offices to the contracted binderies in folded and collated but unsewn signatures. When bound the titles are distributed to the local dealers, where they are sold to the public libraries at the same time as the book is published.⁵ Time is saved, and mass production makes the binding cheap, all without any extra administrative cost, dealers' risk, or any binding problem for the smaller libraries.

The quality of the standard library bindings is also controlled. The material is rexine or other waterproof imitation leather in special colors. The lettering begins at standard heights, measured from the top of the book. The signatures are sewn by machine, as are the end-papers. These are folded so as to form signatures of their own and are reinforced along the folds with open-weave cloth, such as crash. This method of making end-papers, used in French bindings since the days of Grolier, has proved better suited to machine sewing than the usual European system of folding double end-papers around the first and last signature of the book. This technique is more suited to hand-binding, but even there the back is weakened considerably.

All over Europe the use of plastic materials for book covers is at present being studied. In Germany the Einkaufzentrale has developed a transparent glue which can be applied to any lamination sheet. In this way it is possible to protect the publishers' printed and often colored paper covers which are glued to the boards.⁶ Thus the appearance of the book is made more attractive at the same time as the covers become washable. In France the entire book covers are sometimes made of a flexible plastic material, an example being the publisher's binding on Mlle. Malclès's *Cours de bibliographie*. The growing mass of pre-bound titles does not eliminate the necessity of

Some Binding Problems Abroad

binding newly acquired unbound volumes which are usually sent to commercial binderies by public libraries as well as by most research libraries.

A well-balanced binding program necessitates the standardization of bindings to a minimum of approved materials in a minimum range of colors. The less storage space and selection time the bookbinder has to spend on library binding materials, the better quality he can afford without raising costs. He may, on the contrary, reduce them. In some libraries one is still weak-hearted enough to bind current periodicals uniformly with the old ones. That practice should be discouraged whenever the traditional type of binding is beyond an acceptable minimum. The main thing is to preserve the books, and a better material is more effective.

In public libraries worn-out copies can and should be discarded. Before that, much sought-after copies can do service some hundred times more if rebound by the unsewn method.⁷ The cardinal problem of that method is the glue. Among the best is the German Lumbeck glue invented by a binder, Lumbeck, some thirty years ago.⁸ This glue has been subject to several tests, and has proved to endure exposure to sunshine during 4½ months, to moisture in a wine cellar during three months, and to severe cold in a refrigerating plant during three months without losing flexibility or growing fragile.⁹ Swedish practice at the Royal Library has proved the glue to be easier to work with than other imitation resinous glues, such as the German Planathol, the Swedish Hernia, and at least equal to such American glues as Liquick Leather. Thus, thanks to the strength and flexibility of the glue, the unsewn book has a better flat opening than any other method affords.

Krabbe and Luther mention another mechanical method, called after the German bookbinder Meiler,¹⁰ a variation of the method called drilling in the United States.¹¹ This method was practiced for some time in a Swedish library, but was soon abandoned since the cords in the inner margin do not permit photographing or filming.

The unsewn Lumbeck binding is being increasingly used, in Sweden mainly for rebinding, in Germany also for the binding of little used periodicals. This is the case at the University Library in Hamburg.¹² The Lumbeck method requires every signature to be cut, thus enabling the glue to reach every page.

Since the application method is unique, it is perhaps the best to describe briefly. The glue is applied twice by hand or machine to the cut spine, which is pressed first to one side, then to the other. Un-

STEN G. LINDBERG

fortunately, this method appeared at the same time as book margins were reduced in size owing to rising paper costs. If a Lumbeck binding has to be rebound, the only way, is to cut again and with the narrow margins that is the weak point.

Another unsewn method, therefore, has been developed in England and Sweden. The method is applicable to books as well as to periodicals. It avoids cutting and preserves the sewn but unbound publishers' copies or the single numbers of a periodical, whether these are sewn, wire-stitched or glued. Any time-consuming ripping and preparation for sewing is unnecessary. The book or the set of numbers forming a volume of a periodical is glued directly on the back, and strong paper or reinforcing cloth is applied, leaving 1½ to 2 inches free on each side. To these joints are glued cut hard boards of imitation leather in the desired colors. The back and one inch of the boards are covered by a thin cloth. The lettering is either typewritten on paper and glued on to the back, or written directly on the spine with an electrical pen on gold leaf or with special ink. There are also small tools for lettering, heated with electricity, among which the German Permacon is very good.

The protection given by such bindings is quite sufficient for a wide range of little-used materials that research libraries are required to preserve. They are extremely cheap, when made within the library, just a job for a supervised apprentice.¹³ If their use should grow unexpectedly, the covers can be torn off without damage and the book or the set of numbers bound in the ordinary way. With this method the earlier cheap bindings, such as cardboard covers, are no longer needed. More important or frequently used titles, however, have to be rebound in the ordinary way.

Pamphlets are not ordinarily bound together in Europe—except in England. Special items are bound separately, often in full paper, covering both back and boards. The most common way is to keep them vertically between hard boards, tied together with a pair of linen bands.¹⁴ The advantage is the elasticity of the covers, which holds the material fast, irrespective of how much or how little there may be between the boards. The disadvantage is the eternal tying and untying of the bands. A recent report from South America¹⁵ has indicated the superiority of bands and boards over vertical cases, where the material often sinks to the bottom and suffers damage. The solution proposed in Lima is boards with only one band to hold them together, but with that method it is impossible to keep pamphlets of different sizes between the same boards, since the smaller ones will inevitably fall out.

Some Binding Problems Abroad

Consequently, one would have to keep a large stock of hand-made boards of various sizes.

The problem is of no small importance as the number of pamphlets in European research libraries often amounts to millions. The best solution seems to be a new German method by which the pamphlets are numbered and kept lying horizontally in boxes big enough to receive different sizes without any risk of damage. The top flap and the lid can be opened for easy access. The author has seen such a box from the Landesbibliothek at Stuttgart, and has heard that they are used in several other libraries.¹⁶

To the care of books belongs the transport problem. The old library trucks with horizontal shelves, often overloaded, result in books continually falling off with much accompanying damage. In Germany¹⁷ and Sweden trucks have been constructed with sloping shelves. A specimen truck was designed at the Royal Library, Stockholm in 1954. They carry less material but it cannot fall off. The prevention of damage to books is worth the cost of extra trucks.

So far, this discussion has concerned the binding and rebinding of modern books. The care of old bindings calls for special attention, the more so as fine old bindings have become treasures which cost far more than most incunabula. In the course of the study of old bindings,¹⁸ principles for the care and repair of them have been worked out, especially at four great institutions in Europe: the binderies at the British Museum in London and the Bibliothèque Nationale in Paris, the Instituto di Pathologia del Libro in Rome, and the bindery at the Bayerische Staatsbibliothek in Munich. The head of the London institution, H. J. Plenderleith has written a most useful booklet on leather for libraries.¹⁹ The Rome Institute has published a *Bollettino* since 1939. The founder of this bulletin, the late Padre Alfonso Gallo, took time to gather his immense knowledge of the enemies of books and book repairs into a outstanding treatise²⁰ which should be translated into English. In 1938 a commercial bookbinder in Berlin, Max Schweidler, brought out a book based on his long experience as a skillful repairer of old books, and this useful publication appeared in a revised and enlarged edition in 1949.²¹ A running discussion of these problems is also to be found in periodicals such as *Archives*, *A.B.C.D.*, *Archivum*, and *Zentralblatt für Bibliothekswesen*.

The methods followed in this repair work may be summed up as follows: In its unrepairs state a damaged old binding may give useful information on early binding methods. It may therefore be best to keep it as it is, well protected in a flannel-covered box, only cleaning

the leather. If an old binding has to be rebound, it should be treated as an archaeological object. As the binding is taken apart, all evidence of the original binding methods should be carefully recorded, if necessary, the headbands, sewing and joints should be copied on a model. The rebinding then should be made exactly by the same methods as were used the first time. In some places librarians are careful to use the same sort of leather, even if this is sheep or calf. As such leather is tanned now by different and inferior methods to those employed in former times, this is going too far. Morocco or Oasis goat leather is the only material that should be used in libraries.

For the preservation and cleaning of leather, there are several methods. Well-known is the solution used at the British Museum, especially developed to suit the moist climate on the British Isles. Very similar to that is the British commercial product, Pliantine from Messrs. Artur Rick & Partners, Ltd., Pontypridd, Glam. In the Bibliothèque Nationale another method is used.²² First the binding is cleansed by the application in very light touches of a British saddle soap from Messrs. Bricknell, Turner & Sons, Ltd. The effect is quite remarkable. The dirt is removed also from the gold finish, which is not affected but shines with clear brightness. The next day the leather is polished with a mild varnish (Ceronis from Messrs. Lefranc, Paris). In the Royal Library, Stockholm, the varnish is mixed with neat'sfoot oil, and the effect is remarkable. A pre-Grolier calf binding which was just in the yellow state of transition into dust received a brilliant yet durable surface.

Lamination of manuscripts according to the Barrow method or others is practiced and studied all over Europe.²³ As the method will be treated elsewhere in this number, it is not necessary to deal with it here.

The repair institutions mentioned above belong to the libraries. Book repairing requires skilled craftsmen which are seldom found in commercial binderies. If a library can afford such a bindery of its own, it will pay—beyond discussion. Whether it would also pay to do ordinary bindings in library binderies depends on several circumstances. In England the law does not allow books to be taken from the British Museum, and consequently a bindery in the house is necessary. In Germany the problem has been much discussed since World War II. The Germans seem to think that it would pay for a big library to operate its own bindery, provided that only the most modern machines are used and the workmen are efficiently supervised.²⁴ In Scandinavia, where the libraries are owned by the state or the local gov-

Some Binding Problems Abroad

ernments, the standard wages make library binderies uneconomical. A good workman does not earn more money than a lazy one, and the wages paid by government institutions are too low to attract competent workmen. In those countries, therefore, it is better to concentrate on repair binderies, which are also able to bind manuscripts and newspapers and to produce cheap bindings. It is wiser to let ordinary bindings be made by commercial binderies.

With standard specifications for library bindings, on the model of those given in the American Library Association *Library Binding Manual*,²⁵ the work of shipping the books to binderies is very much facilitated. A simple list, arranged and typewritten by a clerical assistant, will do. Thus much of the old complicated routine has become obsolete.

The main thing in organizing a library binding staff is to keep a trained librarian to decide what type of binding should be used for various types of books, and who could control the quality of the work and study materials and methods. No modern library can afford to neglect binding problems as in the past.

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STEN G. LINDBERG

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Some Personnel Considerations for Binding and Conservation Services

EDWARD CONNERY LATHEM

THE FIRST THING that needs to be said in any treatment of this topic is, of course, that matters of binding and the conservation of materials in a library are everybody's business, the concern of each member of the staff, no matter what his or her regular capacity or functions may be. But there is also a corollary to this postulate, and that is that these matters must, in addition, be somebody's responsibility. It is not enough that everyone should constantly and vigilantly direct attention to the condition and care of all library materials; there must be, as well, someone specifically responsible for the binding and conservation program as a whole. And this responsibility, moreover, must be backed by a degree of authority adequate to assure the program's proper functioning and success.

Pelham Barr in an article published nearly a decade ago defined conservation in its broadest terms as "responsible custody," a function "concerned with every piece of material in the library from the moment the selector becomes aware of its existence to the day it is discarded." Pointing out the existence of "a need for reorienting administrative thought on the whole subject of book conservation and binding;" he urged librarians to "plan and provide for a truly broad program of book conservation."¹

Because our libraries vary in kind and size and organization, they must, of course, vary also in the provisions that can be made for conservation services. In very small institutions it will necessarily be the librarian himself who will perform whatever duties of this nature are to be undertaken, while as the scale is ascended toward the level of institutions of huge size and complex character the question of personnel becomes a more involved and difficult problem.

There is surely no necessity of providing a profusely footnoted exposition of the obvious and widely-recognized fact that persons par-

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EDWARD CONNERY LATHEM

ticularly well qualified to oversee and direct conservation activities, especially in their broadest context, are not by any means the profession's most embarrassingly over-abundant commodity. The reasons for the existing scarcity of personnel are several in number. Prominent among them is the inadequacy of the training currently provided by most of our library schools. Louis Shores' article of a few years ago entitled "Do Librarians and Binders Play Fair?" revealed that of the twenty-six library training agencies included in his survey, all "provide some binding instruction," but that most frequently such instruction consisted merely of one or more lectures or exercises included as a part of the elementary courses in materials.² It is apparent that in most instances the exposure was meager indeed, and plainly much ground must still be covered if the profession is to be provided with an adequate supply of conservation personnel.

Also writing from the standpoint of binding considerations alone, Jerrold Orne states that "it is clear to all binders and to most librarians that the [library] schools are not teaching practical binding knowledge." He further observes, "Where the unusual school offers a course in this field it is commonly not compulsory, and those who do take it learn more about historical and antiquarian binding than about today's practical library binding problems."³

E. W. Browning suggests a second cause for the great lack of trained personnel when he says,

. . . in the past at least, there has been little or no call from libraries for assistants specially trained for binding supervision and book conservation. Too often libraries have been content to give this work to an inexperienced assistant, whose only training had been what he could learn from good or bad methods employed by his predecessor.

Libraries have asked for and library schools have trained assistants in book selection and in cataloging and classification. But of what avail are well selected books made easily available through a well organized catalog if, when found, they are not in usable condition. Every library has thousands of dollars' worth of books and other reading materials, but only in the best organized libraries are these materials cared for by fully trained and experienced binding supervisors.⁴

In Browning's opinion, then, the absence of a sufficient demand on the part of the country's libraries has, at least in part, accounted for our library schools not turning any very vigorous attention to providing training in this field.

Still another probable reason for new librarians failing to be especially interested in conservation matters is suggested by E. A.

Personnel Considerations for Binding and Conservation

D'Alessandro in telling of his own feelings upon transferring from a branch library in the Cleveland Public's system into binding and book repair work: "Frankly, I did not know whether I would like it or not. I did not know if I would find the challenge that I had found while serving the public for ten years or so. For a time, I was worried by the very disturbing thought that I was consigning myself to the dull, dry, dreary occupation of handling nothing but dirty, torn, and worn-out volumes. Could it be that I had sentenced myself to rattle around among the drying bones of the library's grave-yard?"

D'Alessandro discovered, however, that his misgivings, typical perhaps of the reactions of many librarians to the area of book repair, were groundless. "The past two years," he reports, "have been a revelation and an education. Instead of finding myself in a graveyard littered with the broken backs, crushed spines, and dead bodies of books, I found myself in what verily may be called the library's rehabilitation laboratory. Thus, the Book Repair Division has become for me a proving ground, and an experimental station, wherein new equipment, new materials, and new techniques can be tested, tried, and put into operation, not merely for the sake of change, but in the interest of library economy and better service to our public serving departments."⁵

These are but a few of the causes for the lack of personnel properly trained to handle conservation services. What remedies for the existing situation are likely to develop in the foreseeable future? If, as is hoped, we are entering upon a period in which greater and greater attention will be directed toward conservation, it seems likely that we can expect librarians to be increasingly mindful of these needs and to think in terms of adding conservation specialists to their library's staff. The emergence of this "age of enlightenment," coupled with the demand for qualified personnel, may well stimulate the library schools to give more curricular emphasis to this area and its problems and students to take a more interested view of conservation matters. Hopefully, professional library organizations will become interested and play important roles in stimulating attention to training in conservation. Browning suggests, too, that libraries not able to employ library school graduates see to it that their conservation employees make visitations to binderies at least once a year, and that they also visit other libraries and attend library association meetings for the exchange of ideas and information.⁶

As for the present time, it is for most libraries pretty largely a case of making the most of the talents of personnel available and, obviously,

EDWARD CONNERY LATHEM

the services of the best qualified person should be secured. Except perhaps in the largest of institutions, it really does not greatly matter who performs the functions of a binding and conservation officer, nor what his title may be, so long as that individual does the job effectively and well. It is the results that are important. Despite the fact that there will be advocates of all sorts of logical and functional and otherwise professedly desirable and appropriate combinations of interest and responsibility, in situations in which such a combination is required, the decision on who should take on responsibility for conservation ought surely to rest chiefly on the basis of who is best qualified. Few libraries can have a keeper of collections to devote full time to conservation affairs, and in lieu of this a doubling up of responsibilities is required. To do this on grounds of other than ability would seem to be wasteful of talent. Such an arrangement, to be sure, molds a part of the organizational structure on the basis of the individual, which under many circumstances is perhaps undesirable, but it does permit the application of the most skilled services within command to an area of activity and concern that deserves the very best that can be provided. And if preconceived ideas of a neat and orderly design for the organization chart are frustrated thereby or certain theoretical principles of administrative organization are somewhat violated, these transgressions seem to be justified in institutions not able to afford or to find a properly trained person to concern himself solely with conservation matters.

M. F. Tauber in his *Technical Services in Libraries* has, however, sounded a pertinent warning when he declares, "Too often the responsibility for binding has been given to an individual whose time is taken up with other and seemingly more important tasks."⁷ This is a genuine cause for concern, too, when it is necessary to rely on only the part-time attention of a staff member to the more general and inclusive problem of conservation, and it is a danger that should neither be lost sight of nor minimized.

It is not at all unfeasible, it may be pointed out, for conservation responsibility to be shared by a number of persons, each well-equipped to handle some one of the various specialized phases of the total problem. This is especially true in larger libraries with separate departments for the administration of special classes or kinds of library resources. In this connection it must, however, be strongly recommended that the responsibility be considered—in the finest distinction of the words—really a shared and in no sense a divided one. And in such cases, also, it may be best for one individual to be considered as

Personnel Considerations for Binding and Conservation

having the primary responsibility and authority. Cooperation on a library-wide basis is, as was pointed out at the outset, a basic requisite of the program, but coordination is, indeed, an equally important aspect, and one that takes on even greater significance when there are two or more persons engaged in the direction of different phases or segments of the program.

This rather naturally leads to the question: What should the conservation officer be expected to know? The answer can be readily given—considerably more readily, it must be admitted, than can its accomplishment be achieved. He should, in substance, know as much as possible about as much as possible. He should have at his command as much knowledge as is available about the library he serves—especially with respect to the nature of its resources and services, as well as the character of its clientele and the kinds of demands they make upon its collections. And balanced against this should be as much knowledge as it is possible to attain of the technical considerations of conservation practices, methods, and facilities.

The chief conservation problem of a library ordinarily is, of course, one of binding. In addition to having professional library training and experience, and, ideally, foreign language competence, a person directing binding operations, whether they be carried on within a library-maintained bindery or in an outside shop, should be equipped with a basic understanding of the binding processes and operations of both hand and machine work, and should be aware of the various pieces of binding equipment and their uses. He should understand the methods employed in binding and re-binding and the practices employed in mending and repair work, as well as the standards to be applied to the finished products. He should be familiar with the differing requirements for the handling of the various kinds of items processed (as children's books, reference works, periodicals and newspapers, to name but a few of the obvious groups). He must be able to decide, based on such considerations as are suggested by G. R. Lyle in *The Administration of the College Library*,⁸ whether in individual cases it is better to rebind, replace, or withdraw a particular worn-out volume. He should know, also, about work flow patterns and schedules, the keeping of adequate records, and, when appropriate, the relative advantages of commercial binding as opposed to treatment within the library's own bindery for different classes of books and other resources. If all or much of the work is done by an outside bindery, it is important that he work closely with the bindery to insure a mutual understanding on both technical aspects and service,

EDWARD CONNERY LATHEM

and to establish and maintain a sympathetic and cordial intercourse. As Flora B. Ludington has observed of the association between the librarian and the commercial binder, "It is only through working together with mutual trust and respect for each other's special competence that this segment of library management will be handled with the foresight that is needed."⁹ The Library Binding Institute and the Joint Committee of the American Library Association and the Library Binding Institute have, as has already been discussed by J. B. Stratton, played important parts in developing cooperative considerations and solutions to the peculiar problems of bindery-library relationships and in educating both sides to the conditions of the other's environment and requirements.

Depending upon the size of the institution, there might well be other individuals participating in various phases of the administration of binding and book repair. The binding officer might, for example, have the assistance of a bindery preparations clerk or reviser, who would perform sundry record-keeping and allied duties connected with the transfer of books to and from the bindery. The qualifications for such a position would vary from library to library. It would be, for instance, advantageous in a large research library for such a person to have some background in foreign languages, whereas this would be of only slight consequence in a smaller institution where the materials were largely in English. An acquaintance with general library procedures is in most cases required, and especially a familiarity with the rules of entry. Accuracy and aptitude for detail are essential for a bindery preparations clerk in any size library.

Another of the more common units or subdivisions that exist in some libraries and function under the binding officer is a repair station or stations, often located centrally within the stacks themselves or at the circulation desk. These are sometimes referred to as "plastic" repair stations, in that much of their work consists of making minor repairs using various plastic mending products. They also serve, however, as "feeder" channels to the bindery itself for books that need extensive repairs or re-binding. The chief and comprehensive qualification required of persons manning these stations is that they have, besides a command of the processes they are to perform, a knowledge of the limitations of the services that can profitably be undertaken at such stations—of what materials ought and ought not to be given "plastic" first aid and what items are beyond the stage where they can be treated outside of the bindery.

R. E. Kingery, elsewhere in this issue, in his treatment of "The

Personnel Considerations for Binding and Conservation

"Bindery Within the Library," has already admirably discussed the pertinent problems relating to personnel considerations for a library's own bindery. These topics require no elaboration here except, perhaps, to underscore the fact that the services of skilled bindery workers are not at all easy to secure. There are, however, certain organizations that can perform "clearinghouse" functions for inquiries about the availability of personnel. For example, craft groups like the Guild of Book Workers, an affiliate of the American Institute of Graphic Arts with headquarters in New York City, can sometimes assist with requests for craftsmen in the field of hand bookbinding and in restoration work. Some of the trade unions, on the other hand, would be more appropriate agencies to which to apply for information on workers trained in machine binding or those having specific skills limited to individual binding operations. Publications like *Book Production* (formerly *Bookbinding and Book Production*) and some of the printing journals can be used for advertising. And the Library Bindery Institute and the A.L.A.'s Committee on Bookbinding could possibly provide some help, although the location of personnel is not one of their primary objectives. On-the-job training of workers by a competent foreman will ordinarily be the means of supplying a good part of the personnel needs of binderies within most libraries once they have been set up.

A possible solution to a part of the binding problems of some of our smaller libraries that are unable to bear the costs of maintaining a bindery or repair shop of their own, but for which these facilities are in great need, is to consider whether there exists the opportunity for some sort of cooperative enterprise program with other nearby institutions which may be operating under similar circumstances of need. The matter, nevertheless, should be weighed very carefully in all its aspects—both with regard to costs and service—before any action is taken. Under ideal conditions it might well prove to be economically feasible for two or more libraries to set up a small, jointly-maintained shop to handle their bindery services.

Before leaving the subject of binding and book repair it may be well to point out for the benefit of librarians who may find themselves faced with problems in this field, but who lack an adequate background of training or experience to cope with them readily, certain published works that might be helpful in meeting these problems. Self-education, it should be realized, is an important feature of personnel considerations in the field of conservation, where so little knowledge is or can be derived from academic instruction.

The *Library Binding Manual*, prepared by L. N. Feipel and E. W.

EDWARD CONNERY LATHEM

Browning under the direction of the Joint Committee of the A.L.A. and the Library Binding Institute is a most helpful guide, and a copy should be handily within reach.¹⁰ A good general work on binding, such as Edith Diehl's *Bookbinding: Its Background and Techniques*,¹¹ is also a desideratum, and the Government Printing Office's *Theory and Practice of Bookbinding* will prove a very worth-while introductory text.¹² Mention must be made, also, of two other books that ought not under any circumstances be neglected: H. M. Lydenburg and John Archer's *The Care and Repair of Books*¹³ and Douglas Cockerell's *Bookbinding, and the Care of Books*.¹⁴

But what of some of the other more specialized classes of materials included among a library's resources to which conservation services must also be directed, but which cannot ordinarily be provided for with the same binding and repair treatment that is given to ordinary books, periodicals, newspapers, and the like? It has already been suggested that in our larger libraries where special departments exist to administer certain kinds of materials it may be advisable for the specialists in charge of such collections to share in the responsibility for conservation activities. In most instances the librarians of such custodial units will possess as part of their professional training a comprehensive command of the factors involved in the care, preservation, and restoration of the materials with which they deal, and under such circumstances their expert competence should, obviously, be relied upon to supply the need for such services to their collections.

Materials from rare books collections are, for example, usually best handled by or under the direction of their curators or custodians, who ordinarily have a strong background of knowledge about the binding and repair of rarities. In an admirably terse fashion, a committee of the Friends of the Columbia Libraries has set forth what might be termed the minimum qualifications for those overseeing rare books conservation:

It is not suggested that the collector or the librarian himself be an expert binder or restorer. Both of them, however, should be able to recognize the nature of the problem when they see leather bindings turning into powdery dust, hinges cracking, boards severed from their backs or the text badly foxed. They should have the technical knowledge to judge the qualifications of those to whom they entrust the delicate job of preservation or restoration, and to know that the processes employed have been sound and well executed. To follow any other course is fraught with danger and may even result in serious damage to rare or irreplaceable material or its total loss.¹⁵

Personnel Considerations for Binding and Conservation

In large libraries rare books departments have often set up their own special binding stations, frequently as adjuncts of the library central bindery where such exists. These are staffed by a master binder, whose presence within the department permits work to be done under the direct and close supervision of the curator and the materials to be handled with added security. A well-illustrated article in the February 1949, issue of *Bookbinding and Book Production* gives the details of the establishment and operation of a self-contained bindery unit for rare books at the Clark Library of the University of California at Los Angeles.¹⁶

The same approach is recommended for special departments administering non-book materials, as where libraries possess manuscripts collections and, as is often the case with colleges and universities especially, archives. If there is a manuscripts curator or archivist, or if these resources are administered by the rare book staff, it will be best to have these specialists take responsibility for their physical care. Where the program of acquisition of such resources is extensive, it may be necessary to provide one or more persons to constitute a special unit for repair and preservation services. Some of the functions associated with this work, such as the preliminary cleaning and flattening, are not complicated and will not require highly skilled workers. Others, like the washing of manuscripts, the removal of stains, and performing reinforcing processes, call for expert treatment; and qualified restorers are not easily found. Libraries installing laminating machines will usually have their operators trained by the firm selling the equipment. In connection with laminating W. J. Barrow has suggested that, "In some institutions a good knowledge of book binding is required previous to the training in restoration work." He states that a period of apprenticeship of "at least three to four years produces the best craftsmen," and that all of his own pupils thus far have had "at least a high school education."¹⁷

The librarian having only minor manuscripts holdings with infrequent problems of their care and preservation may use as a handbook Adelaide E. Minogue's *The Care and Preservation of Records*,¹⁸ published as a National Archives bulletin, to which Mrs. Minogue has appended a splendid bibliography. Mary A. Benjamin in her *Autographs: A Key to Collecting* also provides a helpful section on manuscripts preservation, written in a non-technical vein for the layman.¹⁹

With extensive map collections, too, the map librarian can normally be relied on to perform conservation services on his holdings. Lacking such a person, the librarian with no specialized training in

EDWARD CONNERY LATHEM

the field will want to refer to the information provided in Clara E. LeGear's *Maps: Their Care, Repair and Preservation in Libraries*²⁰ and L. A. Brown's *Notes on the Care & Cataloging of Old Maps*.²¹

This same approach, should, in similar manner, be followed in providing conservation services for other specialized classes of library materials: their care should be placed in the hands of a well-qualified custodian if he is present, or such other available conservation personnel as may exist and who may have experience in treating such resources, or, these alternatives failing, the librarian will need to refer to the best sources of information on the preservation of the particular kind of materials in question.

Taking as the basis for our consideration the broad view of conservation espoused by Barr, as a 'cradle-to-grave' concern with all library resources, there are still other services for which personnel must be supplied.

The important function of inspection and care of materials in the library's stacks has been treated earlier in this issue by R. J. Schunk in his article "Stack Problems and Care." The question of whether stack personnel should constitute a separate administrative unit within the library organization is a subject over which there has been some controversy, but it is a problem that cannot be adequately treated here in its many and varying aspects. In this connection, it must be urged, however, that whatever organizational structure is adopted, the person responsible for stack management, if he is not directly under the supervision of the library's general conservation services officer, should at least work in close cooperation with him. All personnel working in the stacks should, of course, be fully aware of proper shelving practices and should direct their activities accordingly, and they should be on the alert at all times for items requiring repair. If the cleaning of library materials is a function carried on by the library's building maintenance staff rather than by personnel immediately under the stack officer, the latter should be allowed to prescribe in specific terms how any and all of such operations shall be performed.

It has been observed that "the lack of systematic conservation is often the result of poor layout of the library building and the lack of effective or adequate equipment."²² This points up the necessity of the conservation officer having among his qualifications not only a knowledge of the effects upon the physical well being of library resources of temperature, light, humidity, and other climatic factors and an ability to deal with these problems within the restrictions imposed by his own building arrangements, but also an awareness of

Personnel Considerations for Binding and Conservation

the variety of equipment that is available and its relative merits for meeting the various storage and housing requirements of materials. The conservation officer will, moreover, be required to be ready and able to cope with such unromantic concerns as insect and vermin control.

There is a growing need for investigation and experimentation in the field of conservation, and this, too, involves a personnel consideration. Referring to P. E. Clapp's article "A Technical Research Laboratory for the Library,"²³ L. R. Wilson and Tauber in *The University Library* observe:

The suggestion has been made that the study of such problems as materials, fabrics, lettering, sizing, paper preservation, reproductive techniques, preservation from mildew, extermination of insects and vermin, and leather preservation, as well as other technical matters of modern-day librarianship, should be investigated by a technical research laboratory, supported co-operatively by major university, public, and reference libraries. It has also been suggested that each large library should have an individual on its staff who would serve as a general research assistant to investigate technical problems of conservation. In those university libraries which have binderies, this arrangement exists to some extent.²⁴

Finally, there is the basic matter, as mentioned at the beginning, of securing the cooperation and joint-effort of all library workers in the library's over-all program of conservation, and of assuring that this activity is intelligently and persistently carried on. Here is the point at which the conservation officer will be called upon not only to exercise the broad authority which it has been suggested he must possess to make the program efficiently workable, but, moreover, to summon up sufficient tactful persuasiveness to insure that the desired ends will be achieved without friction or acrimony. In an undertaking such as this, where the work is of such a vast scope and where so wide an area of the library's total operations and services is involved, it is essential that the spirit under which the program is carried forward be one of friendly harmony. It may prove desirable in the larger libraries to issue a staff information bulletin to give all employees an awareness of the problems of conservation, a knowledge of the nature and aims of the library's conservation activities, and some instructions on what functions each staff member is encouraged and expected to perform. Tauber in *Technical Services in Libraries* provides a section of commentary on the individual roles that should be played by certain of the library departments (acquisitions, cataloging, reference,

EDWARD CONNERY LATHEM

circulation, periodicals, and photography) and by the branch libraries in coordinating their conservation activities with particular regard to binding considerations.²⁵ This might well be expanded to cover a broader scope of concern with conservation matters. Perhaps, also, for an appropriately large library system a manual might be produced covering in detail specific approaches to different conservation problems and the procedures to be employed in performing conservation services. The alerting of key personnel to the appearance of writings bearing upon this field is important also.

The conservation officer's duties in enlisting the informed assistance of others in the program which he directs need not and should not be limited to staff members alone but may, as means and opportunity permit, be extended to library users as well. Ira L. Brown in an article entitled "Our Book Hospital"²⁶ interestingly tells of the thoughtfully-contrived dramatization used by one institution in impressing upon children the necessity of using their library books properly and with care. Activities with similar aims of educating the public to the requirements of conservation ought not to be neglected in dealing with all library patrons.

Some of the varied considerations centering upon the problem of personnel in conservation services have been touched upon and discussed. The vast differences that manifestly exist between our libraries make it impossible to prescribe validly the particulars for a standard or even an ideal organizational arrangement. Such structure will, as has been pointed out, depend upon the existing conditions and circumstances within the individual institutions. Similarly, and for the same reason, it is not possible to declare categorically just what the specific qualifications required of personnel will or ought to be and precisely what services they should be expected to perform. It has been urged that in approaching the question of staffing a conservation program libraries carefully survey their needs and their resources, both present and potential, for meeting these needs. No two institutions will be found to be exactly the same, and although it is, of course, desirable to learn from the experience of others, it is an unrealistic and hazardous approach to follow rigidly and precisely patterns established elsewhere or blindly to follow theoretical precepts that do not reflect all of the variables existing as a part of the distinct character of each of our libraries. An attempt has been made to suggest some of the areas of activity and concern and some of the important considerations of background and capability in matters of personnel, and

Personnel Considerations for Binding and Conservation

to strike some kind of balance between over-generalization and over-specification in the treatment of these problems.

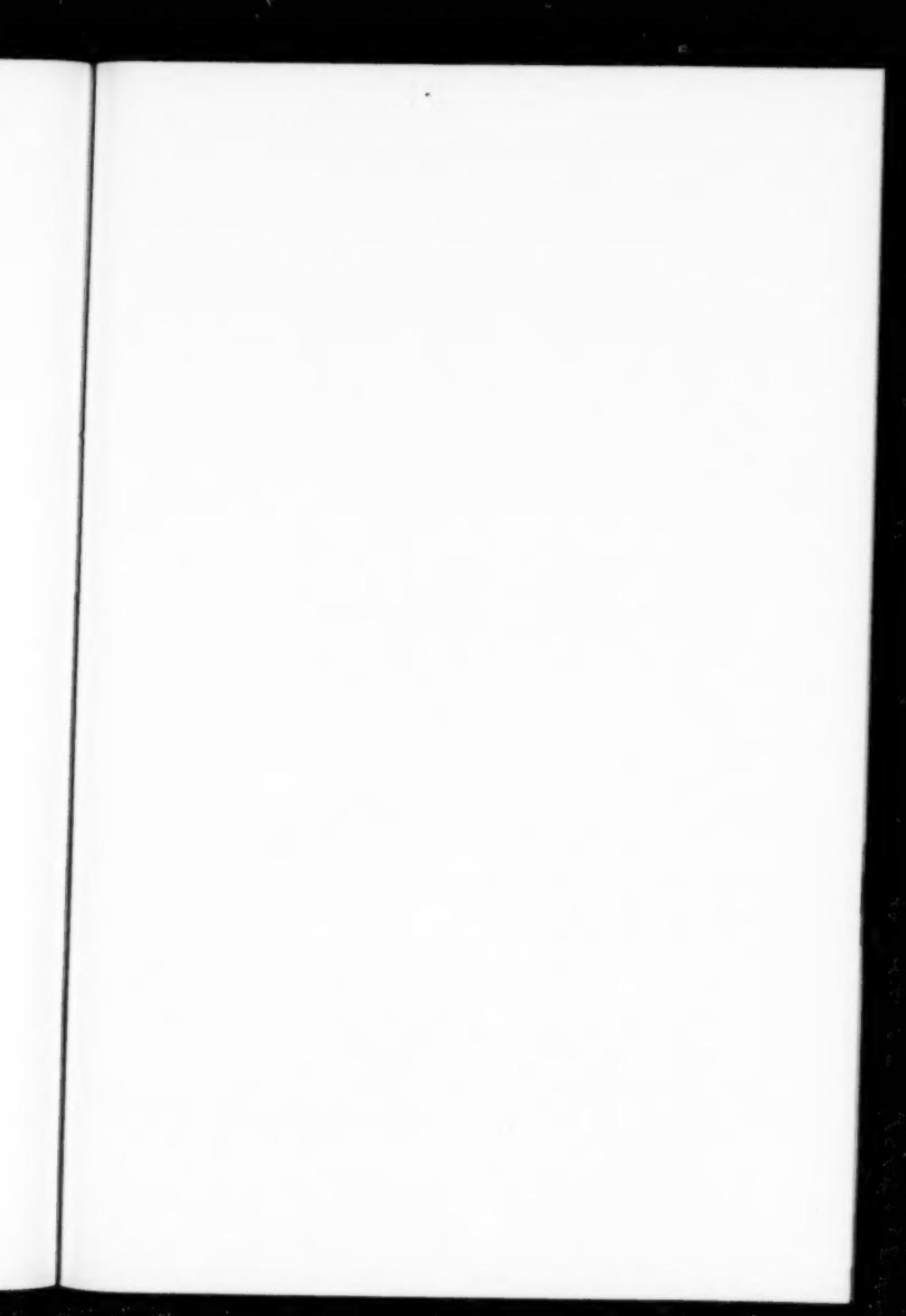
Because conservation itself has been a considerably neglected topic in our professional literature and in the discussions at our library association gatherings, questions of personnel in this area have been given but slight attention. Few studies have been undertaken and little writing done bearing directly upon this subject. It is to be hoped, however, that the period ahead will witness both an expanding interest and activity in personnel matters, as in conservation generally, and that as a result of this increased attention and concern we shall better serve our public of today and not be weighed in the balances and found wanting when, as L. C. Powell has put it, we are judged by the future on the basis of "how wisely we have conserved the research treasure which we inherited, increased, and willed to our successors."²⁷

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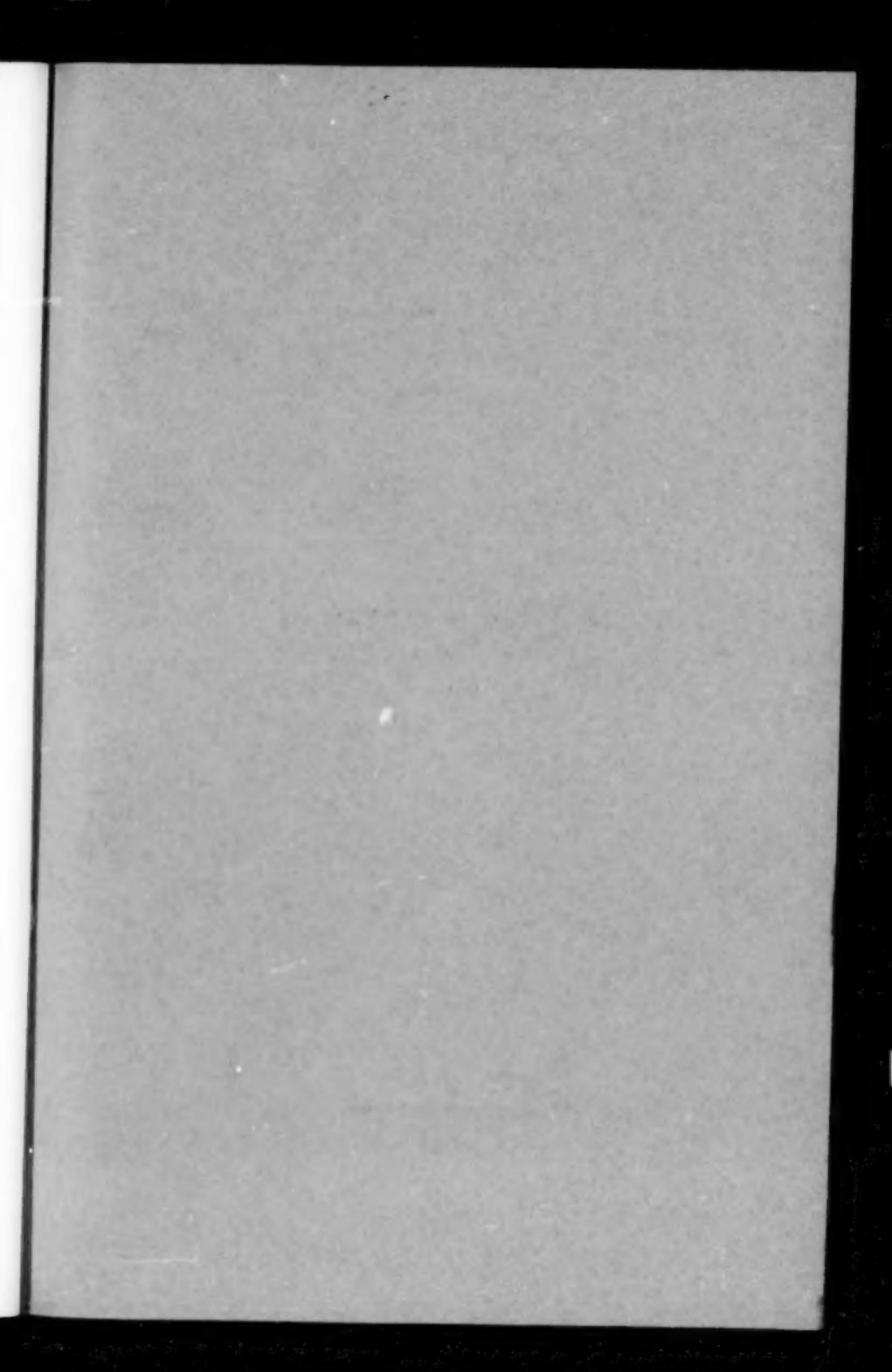
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EDWARD CONNERY LATHEM

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Library Trends

Forthcoming numbers are as follows:

♦ April, 1956, *State Libraries*. Editor: Paxton P. Price, State Librarian, Missouri State Library.

July, 1956, *American Books and Libraries Abroad*. Editors: Dan Lacy, Managing Director, and Charles Bolte, Executive Secretary, American Book Publishers Council, Incorporated.

October, 1956, *Machines and Appliances*. Editor: Arnold H. Trotter, Associate Director for the Technical Departments, University of Illinois Library.

The numbers of LIBRARY TRENDS issued prior to the present one dealt successively with college and university libraries, special libraries, school libraries, public libraries, libraries of the United States government, cataloging and classification, scientific management in libraries, the availability of library research materials, personnel administration, services to readers, library associations in the United States and British Commonwealth, acquisitions, national libraries, and special materials and services.

